

## SEARCH REQUEST FORM

## Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 12-8-05  
 Art/Unit: 1752 Phone Number 302-1333 Serial Number: 10/773,990  
 Mail Box and Bldg/Room Location: 9D60 Results Format Preferred (circle): PAPER DISK E-MAIL  
 (Rem.)

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: P12. See B1b.

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for the  
compound of formula (I)

in Cl. #3

SCIENTIFIC REFERENCE BR  
Sci & Tech Inf. Ctr.

DEC 8 2005

Pat. & T.M. Office

\*\*\*\*\*  
STAFF USE ONLY

Searcher: Ed  
 Searcher Phone #: \_\_\_\_\_  
 Searcher Location: \_\_\_\_\_  
 Date Searcher Picked Up: \_\_\_\_\_  
 Date Completed: 12-9-05  
 Searcher Prep & Review/Time: 5  
 Clerical Prep Time: \_\_\_\_\_  
 Online Time: 120

## Type of Search

NA Sequence (#) \_\_\_\_\_  
 AA Sequence (#) \_\_\_\_\_  
 Structure (#) ✓ (3) Questel/Orbit \_\_\_\_\_  
 Bibliographic ✓ (and) Dr. Link \_\_\_\_\_  
 Litigation \_\_\_\_\_  
 Fulltext \_\_\_\_\_  
 Patent Family \_\_\_\_\_  
 Other \_\_\_\_\_

## Vendors and cost where applicable

\$ 911.77  
 Dialog \_\_\_\_\_  
 Lexis/Nexis \_\_\_\_\_  
 Sequence Systems \_\_\_\_\_  
 WWW/Internet \_\_\_\_\_  
 Other (specify) \_\_\_\_\_

=> file reg  
FILE 'REGISTRY' ENTERED AT 11:05:33 ON 09 DEC 2005  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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=> d his

FILE 'LREGISTRY' ENTERED AT 08:56:37 ON 09 DEC 2005  
L1 STR  
  
FILE 'REGISTRY' ENTERED AT 09:08:02 ON 09 DEC 2005  
L2 0 S L1  
  
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L3 STR  
  
FILE 'REGISTRY' ENTERED AT 09:10:17 ON 09 DEC 2005  
L4 0 S L3  
L5 SCR 1840  
L6 2 S L3 AND L5  
L7 SCR 1139  
L8 8 S L3 AND L5 AND L7  
L9 STR L3  
L10 8 S L9 AND L5 AND L7  
L11 STR L9  
L12 5 S L11 AND L5 AND L7  
L13 STR  
L14 2 S (L11 NOT L13) AND L5 AND L7  
L15 301 S (L11 NOT L13) AND L5 AND L7 FUL  
SAV L15 LEE990/A  
  
FILE 'HCAPLUS' ENTERED AT 09:34:06 ON 09 DEC 2005  
L16 4752 S BARR ?/AU  
L17 1595 S FAHEY ?/AU  
L18 11754 S CONNOR ?/AU OR O CONNOR ?/AU OR OCONNOR ?/AU  
L19 81 S PISKORSKI ?/AU  
L20 0 S L16 AND L17 AND L18 AND L19  
L21 0 S L16 AND L17 AND L19  
L22 506 S BARR R?/AU  
L23 468 S FAHEY J?/AU  
L24 1233 S CONNOR C?/AU OR O CONNOR C?/AU OR OCONNOR C?/AU  
L25 33 S PISKORSKI J?/AU  
L26 45667 S IMAGING#/TI  
L27 10 S (L22 OR L23 OR L24 OR L25) AND L26

L28 102661 S ?ETHANOLAMIN?  
L29 0 S L27 AND L28  
L30 8 S (L22 OR L23 OR L24 OR L25) AND L28  
L31 18 S L27 OR L30  
SEL L31 1,2 RN

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L32 11 S E1-E11

FILE 'LREGISTRY' ENTERED AT 09:43:30 ON 09 DEC 2005  
L33 STR L11

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L34 4 S (L33 NOT L13) AND L5 AND L7  
L35 SCR 2043  
L36 1 S (L33 NOT L13) AND L5 AND L7 NOT L35  
L37 SCR 1993  
L38 0 S (L33 NOT L13) AND L5 AND L7 AND L37  
L39 SCR 1015  
L40 6 S (L33 NOT L13) AND L5 AND L7 AND L39  
L41 528 S (L33 NOT L13) AND L5 AND L7 AND L39 FUL  
SAV L41 LEE990/A

FILE 'HCA' ENTERED AT 09:57:40 ON 09 DEC 2005  
L42 350 S L41

FILE 'REGISTRY' ENTERED AT 09:57:47 ON 09 DEC 2005  
L43 2 S L41 AND L32

FILE 'HCA' ENTERED AT 09:58:07 ON 09 DEC 2005  
L44 60 S L43

FILE 'REGISTRY' ENTERED AT 10:00:11 ON 09 DEC 2005  
L45 E QUINONE/CN  
1 S E3

FILE 'HCA' ENTERED AT 10:05:07 ON 09 DEC 2005  
L46 189527 S L45 OR ?QUINON?

FILE 'LREGISTRY' ENTERED AT 10:05:24 ON 09 DEC 2005  
L47 STR

FILE 'REGISTRY' ENTERED AT 10:08:13 ON 09 DEC 2005  
L48 21 S L47  
L49 SCR 1312  
L50 33 S L47 AND L49  
L51 SCR 1235 AND 1297  
L52 50 S L47 AND L49 AND L51

L53 SCR 2043  
L54 27 S L47 AND L49 AND L51 NOT L53  
L55 13214 S L47 AND L49 AND L51 NOT L53 FUL  
SAV TEMP L55 LEE990A/A

FILE 'HCA' ENTERED AT 10:14:14 ON 09 DEC 2005  
L56 49933 S L55  
L57 12 S L42 AND L46  
L58 9 S L42 AND L56  
L59 1 S L57 AND L58

FILE 'LREGISTRY' ENTERED AT 10:17:33 ON 09 DEC 2005  
L60 STR

FILE 'REGISTRY' ENTERED AT 10:18:37 ON 09 DEC 2005  
L61 50 S L60  
L62 34956 S L60 FUL  
SAV TEM L62 LEE990C/A

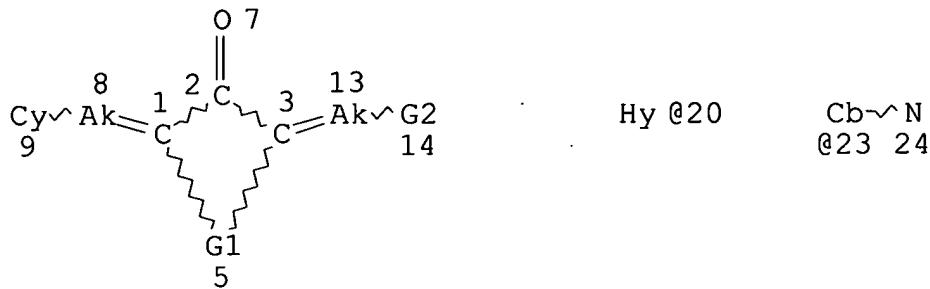
FILE 'HCA' ENTERED AT 11:00:17 ON 09 DEC 2005  
L63 50026 S L62  
L64 1 S L42 AND (L46 OR L63) AND L56  
L65 14 S L42 AND (L46 OR L63)  
L66 9 S L42 AND L56  
L67 1 S L59 OR L64  
L68 9 S L58 OR L66  
L69 8 S L68 NOT L67  
L70 13 S (L57 OR L65) NOT (L67 OR L69)

FILE 'REGISTRY' ENTERED AT 11:05:33 ON 09 DEC 2005

=> d 141 que stat  
L5 SCR 1840  
L7 SCR 1139  
L13 STR  
G1 1 N=N NO2 @8  
@4 5

VAR G1=4/8  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED  
  
GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE  
 L33 STR



REP G1=(0-5) C

VAR G2=20/23

NODE ATTRIBUTES:

NSPEC IS RC AT 24  
 DEFAULT MLEVEL IS ATOM  
 GGCAT IS UNS AT 9  
 DEFAULT ECLEVEL IS LIMITED  
 ECOUNT IS M1 N AT 20

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE

L39 SCR 1015

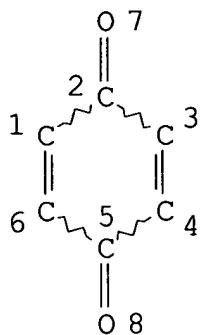
L41 528 SEA FILE=REGISTRY SSS FUL (L33 NOT L13) AND L5 AND L7  
 AND L39

100.0% PROCESSED 103042 ITERATIONS

528 ANSWERS

SEARCH TIME: 00.00.02

=> d 162 que stat  
 L60 STR



## NODE ATTRIBUTES:

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 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

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 NUMBER OF NODES IS 8

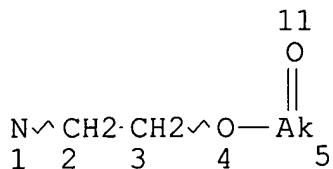
## STEREO ATTRIBUTES: NONE

L62 34956 SEA FILE=REGISTRY SSS FUL L60

100.0% PROCESSED 972786 ITERATIONS  
 SEARCH TIME: 00.00.04

34956 ANSWERS

=> d 155 que stat  
 L47 STR



## NODE ATTRIBUTES:

CONNECT IS E2 RC AT 5  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 6

## STEREO ATTRIBUTES: NONE

L49 SCR 1312  
 L51 SCR 1235 AND 1297  
 L53 SCR 2043  
 L55 13214 SEA FILE=REGISTRY SSS FUL L47 AND L49 AND L51 NOT L53

100.0% PROCESSED 813845 ITERATIONS  
 SEARCH TIME: 00.00.29

13214 ANSWERS

=> file hca  
 FILE 'HCA' ENTERED AT 11:11:26 ON 09 DEC 2005  
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=> d 167 1 all hitstr

L67 ANSWER 1 OF 1 HCA COPYRIGHT 2005 ACS on STN  
 AN 130:274092 HCA  
 ED Entered STN: 08 May 1999  
 TI Resist pattern formation process  
 IN Tanaka, Akira; Koshiyama, Masami; Sakamoto, Kei; Yoneda, Yasuhiro;  
     Yokouchi, Kishio; Mizutani, Daisuke; Ishizuki, Yoshikatsu  
 PA Nippon Zeon Co., Ltd., Japan; Fujitsu Limited  
 SO U.S., 17 pp., Cont.-in-part of U.S. 5,777,068.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM C08G073-00  
     ICS G03F007-037  
 INCL 528353000  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
     Other Reprographic Processes)  
     Section cross-reference(s): 76

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5886136	A	19990323	US 1997-819111	199703 17
	US 5777068	A	19980707	US 1995-527057	199509 12
	JP 09258441	A2	19971003	JP 1996-90244	

199603  
19

PRAI	JP 3579534	B2	20041020
	US 1995-527057	A2	19950912
	JP 1996-90244	A	19960319
	JP 1994-247109	A	19940913
	JP 1994-256222	A	19940926

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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US 5886136	ICM	C08G073-00
	ICS	G03F007-037
	INCL	528353000
US 5886136	NCL	528/353.000; 430/170.000; 430/175.000; 430/270.100; 430/281.100; 430/283.100; 430/286.100; 430/289.100; 430/297.000; 430/299.000; 528/170.000
US 5777068	ECLA	C08G073/10B1D; C08G073/10B1P; G03F007/037
	NCL	528/353.000; 524/600.000; 524/607.000; 528/125.000; 528/126.000; 528/128.000; 528/172.000; 528/173.000; 528/179.000; 528/188.000; 528/220.000; 528/229.000; 528/350.000
	ECLA	G03F007/037

AB Disclosed herein is a resist pattern formation process in semiconductor fabrication comprising the steps of coating a substrate with a photoresist compn. comprising a polyamic acid having, at each terminal thereof, an actinic ray-sensitive functional group which has substituent groups each having a photopolymerizable carbon-carbon double bond, a photosensitive compd. having a photopolymerizable functional group, a photopolymn. initiator, and a solvent to form a layer, subjecting the layer to patterning exposure, and developing the thus-exposed layer with an alk. developer or alk. aq. soln.

ST photoresist polyamic acid photopolymerizable group

IT Polyamic acids

(contg. photopolymerizable carbon-carbon double bonds for photoresists for fabrication of semiconductor devices)

IT Photoresists

(contg. polyamic compds. contg. photopolymerizable carbon-carbon double bonds)

IT Semiconductor devices

(photoresists contg. photopolymerizable carbon-carbon double bonds for fabrication of)

IT 79-10-7, 2-Propenoic acid, uses 79-41-4, uses 80-62-6 84-11-7,

**Phenanthrenequinone** 84-47-9, 2-tert-

**Butylanthraquinone** 84-65-1, **Anthraquinone**

90-93-7, 4,4'-Bis(diethylamino)benzophenone 90-94-8, Michler's

ketone 96-05-9, Allyl methacrylate 96-33-3 97-63-2, Ethyl methacrylate 97-86-9, Isobutyl methacrylate 97-88-1 98-86-2, Acetophenone, uses 101-43-9, Cyclohexyl methacrylate **105-16-8**, Diethylaminoethyl methacrylate 106-63-8, Isobutyl acrylate 106-74-1 106-90-1, Glycidyl acrylate 106-91-2 119-53-9, Benzoin 119-61-9, Benzophenone, uses 120-12-7, Anthracene, uses 140-88-5 141-32-2, Butyl acrylate 492-22-8, Thioxanthone 688-84-6, 2-Ethylhexyl methacrylate 689-12-3, Isopropyl acrylate 752-56-7, Riboflavin tetrabutyrate 818-61-1 868-77-9 882-33-7, Diphenyl disulfide 925-60-0, Propyl acrylate 947-19-3, 1-Hydroxycyclohexylphenyl ketone 959-52-4, Triacrylformal 999-55-3, Allyl acrylate 1070-70-8, 1,4-Butylene glycol diacrylate 1189-08-8, 1,3-Butylene glycol dimethacrylate 1680-21-3, Triethylene glycol diacrylate 1985-51-9, Neopentyl glycol dimethacrylate 2157-01-9, Octyl methacrylate 2210-28-8, Propyl methacrylate 2223-82-7, Neopentyl glycol diacrylate 2370-63-0, Ethoxyethyl methacrylate 2399-48-6, Tetrahydrofurfuryl acrylate **2426-54-2**, Diethylaminoethyl acrylate **2439-35-2**, Dimethylaminoethyl acrylate 2455-24-5, Tetrahydrofurfuryl methacrylate 2478-10-6 2495-35-4, Benzyl acrylate 2495-37-6 2498-66-0, 1,2-Benzo-9,10-**anthraquinone** 2530-85-0 **2867-47-2**, Dimethylaminoethyl methacrylate 3066-70-4 3066-71-5, Cyclohexyl acrylate 3121-61-7, Methoxyethyl acrylate 3253-41-6, Tetramethylolmethane tetramethacrylate 3290-92-4 3524-62-7, Benzoin methyl ether 3524-68-3, Pentaerythritol triacrylate 4367-02-6 4655-34-9, Isopropyl methacrylate 4986-89-4, Tetramethylolmethane tetraacrylate 5495-84-1, 2-Isopropylthioxanthone 5910-25-8 6606-59-3 6652-28-4, Benzoin isopropyl ether 6976-93-8, Methoxyethyl methacrylate 7024-08-0, Trimethylolpropane monoacrylate 7024-09-1, Trimethylolpropane monomethacrylate 7251-90-3 7328-17-8, Carbitol acrylate 7794-68-5, 2-Methylbenzoin 13048-33-4 13532-94-0, 2-Butoxyethyl methacrylate 15625-89-5, Trimethylolpropane triacrylate 16423-68-0, Erythrosine **18977-38-3**, 2,6-Bis(p-dimethylaminobenzylidene)cyclohexanone 19660-16-3 19727-16-3 22499-11-2, Benzoin butyl ether 24493-53-6, 1,3-Propylene glycol diacrylate 24650-42-8, 2,2-Dimethoxy-2-phenylacetophenone 25584-83-2, Hydroxypropyl acrylate 25852-47-5 26570-48-9, Poly(ethylene glycol) diacrylate 26846-58-2, Pentaerythritol dimethacrylate 27813-02-1, Hydroxypropyl methacrylate 27936-34-1, **Methylanthraquinone** 29721-79-7, Hydroxybutyl methacrylate 37275-47-1, Trimethylolpropane diacrylate 40220-08-4 41223-11-4 41637-38-1 41996-78-5, Benzylidethyl ketal 51989-01-6 53417-29-1, Pentaerythritol diacrylate 55205-34-0 55919-77-2, Pentaerythritol monoacrylate 56361-55-8 56744-60-6, 2,2-Bis(4-methacryloxydiethoxyphenyl)propane 57472-68-1, Dipropylene glycol diacrylate 61016-96-4 63226-13-1,

3,3'-Carbonylbis(7-diethylaminocoumarin) 64401-02-1 72700-01-7  
 77473-08-6, 3,3',4,4'-Tetrakis(tert-butylperoxycarbonyl)benzophenone  
 80548-27-2, Pentaerythritol monomethacrylate 90981-75-2,  
 Acrylorange 197011-48-6 221877-38-9 **221877-40-3**  
 (photoresists contg. photosensitive polyamic acids and)

IT 172652-96-9P, Tris(methacryloyl)pentaerythritol p-aminobenzoate  
 172653-01-9P, Tris(methacryloyl)pentaerythritol p-nitrobenzoate  
 (prepn. and reaction in prep. photosensitive polyamic acids for  
 photoresists)

IT 221877-34-5P, 3,3',4,4'-Benzophenonetetracarboxylic acid  
 dianhydride-4,4'-diaminodiphenyl ether-tris(methacryloyl)pentaerythr  
 itol p-nitrobenzoate copolymer 221877-36-7P, 3,3',4,4'-  
 Benzophenonetetracarboxylic dianhydride-4,4'-diaminodiphenyl  
 ether-pyromellitic dianhydride-tris(methacryloyl)pentaerythritol  
 p-nitrobenzoate copolymer 221877-37-8P, 3,3',4,4'-  
 Benzophenonetetracarboxylic dianhydride-1,3-bis(3-aminopropyl)-  
 1,1,3,3-tetramethyldisiloxane-4,4'-diaminodiphenyl  
 ether-pyromellitic dianhydride-tris(methacryloyl)pentaerythritol  
 p-nitrobenzoate copolymer  
 (prepn. and use in prep. photoresists)

IT 122-04-3, p-Nitrobenzoyl chloride 3524-66-1, Pentaerythritol  
 trimethacrylate  
 (reaction in prep. photosensitive polyamic acids for  
 photoresists)

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

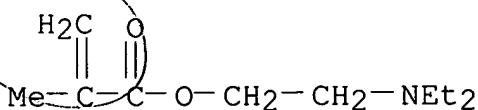
- (1) Anon; JP 5530207 1974
- (2) Anon; JP 5541422 1976
- (3) Anon; JP 5952822 1979
- (4) Anon; JP 63183439 1988 HCA
- (5) Anon; JP 1259351 1989
- (6) Anon; EP 0502400 1992 HCA
- (7) Anon; JP 4363361 1992
- (8) Anon; JP 470661 1992
- (9) Anon; JP 5100424 1993
- (10) Anon; JP 5281717 1993
- (11) Anon; JP 55995 1993
- (12) Anon; EP 0702270 A2 1996 HCA
- (13) Anon; JP 8082931 1996
- (14) Anon; JP 8095247 1996
- (15) Hiramoto; US 4243743 1981 HCA
- (16) Kleeberg; US 3957512 1976 HCA
- (17) Kubota; J Macromol Sci -Chem 1987, VA24(12), P1407 HCA
- (18) Opa; US 5348835 1994 HCA
- (19) Opa; US 5518864 1996 HCA
- (20) Rubner; US 4040831 1977 HCA
- (21) Rubner; US 030186RE 1980
- (22) Tokoh; US 5238784 1993 HCA

IT **105-16-8**, Diethylaminoethyl methacrylate **2426-54-2**  
 , Diethylaminoethyl acrylate **2439-35-2**, Dimethylaminoethyl  
 acrylate **2867-47-2**, Dimethylaminoethyl methacrylate  
**18977-38-3**, 2,6-Bis(p-dimethylaminobenzylidene)cyclohexanone  
**221877-40-3**

(photoresists contg. photosensitive polyamic acids and)

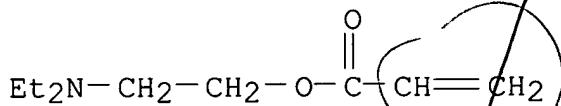
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CN 2-Propenoic acid, 2-methyl-, 2-(diethylamino)ethyl ester (9CI) (CA  
 INDEX NAME)



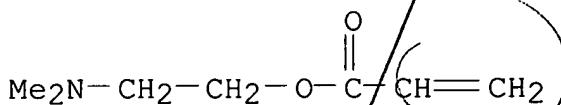
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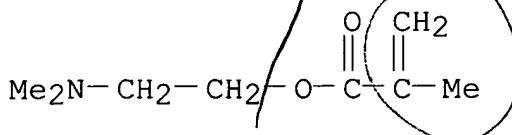
RN 2439-35-2 HCA

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 NAME)



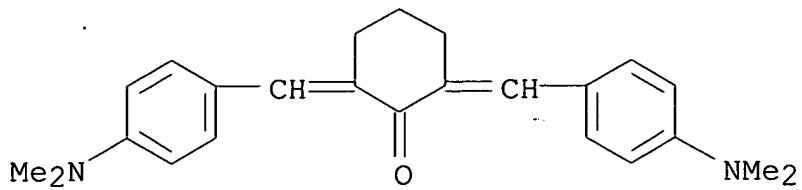
RN 2867-47-2 HCA

CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester (9CI) (CA  
 INDEX NAME)



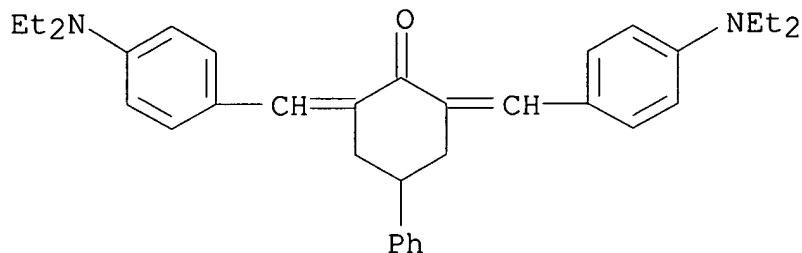
RN 18977-38-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
 (CA INDEX NAME)



RN 221877-40-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]-4-phenyl- (9CI) (CA INDEX NAME)

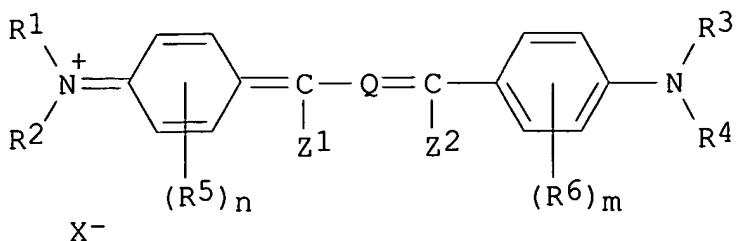


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L69 ANSWER 1 OF 8 HCA COPYRIGHT 2005 ACS on STN

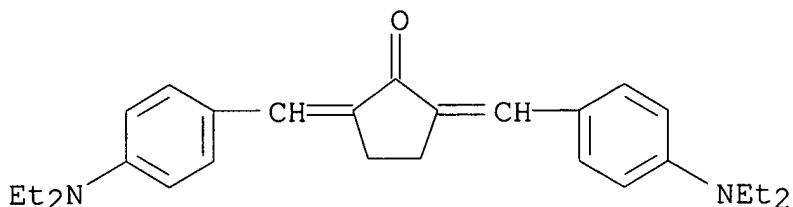
143:396345 Photoimaging material showing high sensitivity and wide development latitude for direct platemaking of positive-working lithographic printing plate by IR laser. Hatanaka, Yusuke; Nakamura, Ippei (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2005283680 A2 20051013, 51 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2004-93801 20040326.

GI

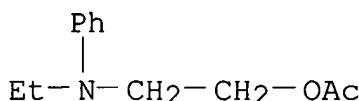


I

AB The title photoimaging material comprises water-insol. alkali-sol. resin-contg. image recording layers on a support, wherein the outermost image recording layer contains an IR absorbing agent represented by I (R1-4 = H, alkyl, aryl; R5, R6 = alkyl, substituted oxy, halo; n, m = 0-4; Z1, Z2 = H, alkyl, aryl; Q = trimethine, pentamethine; X- = counter anion).  
IT **38394-53-5P 38954-40-4P, 2-(N-Ethylanilino)ethylacetate 80601-02-1P 100609-71-0P 301193-31-7P**  
(IR absorber prep. for photoimaging material showing high sensitivity and wide development latitude for direct platemaking of pos.-working lithog. printing plate by IR laser)  
RN 38394-53-5 HCA  
CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)

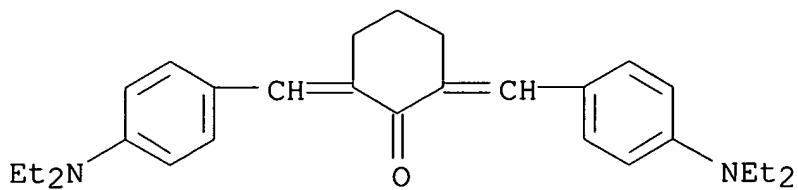


RN 38954-40-4 HCA  
CN Ethanol, 2-(ethylphenylamino)-, acetate (ester) (9CI) (CA INDEX  
NAME)



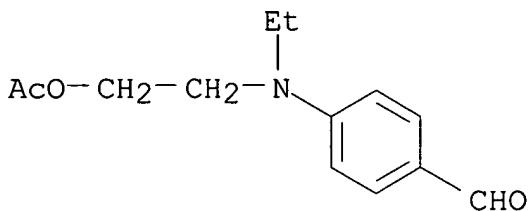
RN 80601-02-1 HCA  
CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)

(CA INDEX NAME)



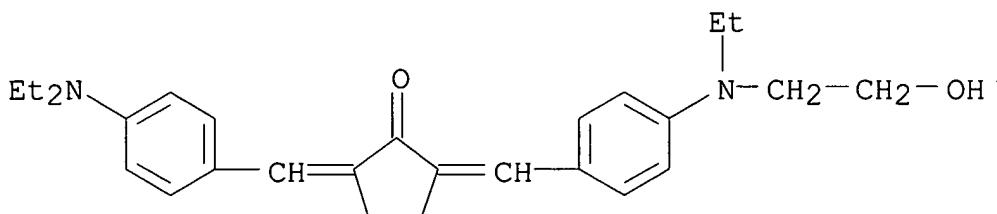
RN 100609-71-0 HCA

CN Benzaldehyde, 4-[(2-(acetyloxy)ethyl)ethylamino]- (9CI) (CA INDEX NAME)



RN 301193-31-7 HCA

CN Cyclopentanone, 2-[(4-(diethylamino)phenyl)methylene]-5-[(4-[(ethyl(2-hydroxyethyl)amino)phenyl)methylene]- (9CI) (CA INDEX NAME)



IC ICM G03F007-004

ICS G03F007-00; G03F007-095

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 22057-80-3P **38394-53-5P 38954-40-4P**,2-(N-Ethylanilino)ethylacetate **80601-02-1P****100609-71-0P 301193-31-7P**

(IR absorber prep. for photoimaging material showing high sensitivity and wide development latitude for direct platemaking of pos.-working lithog. printing plate by IR laser)

L69 ANSWER 2 OF 8 HCA COPYRIGHT 2005 ACS on STN

136:45708 Image-formation material and infrared absorber. Nakamura,

Ippei (Fuji Photo Film Co., Ltd., Japan). Eur. Pat. Appl. EP 1162078 A2 20011212, 41 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2001-112937 20010606. PRIORITY: JP 2000-169180 20000606.

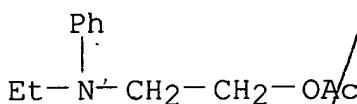
AB Heat mode-applicable image-formation materials are described which comprise a substrate carrying thereon an image-formation layer which contains an IR absorbing agent which has .gtoreq.1 surface orientation group in the mol. and for which the solv. of the layer in an alk. aq. soln. is changed by action of radiation in the near-IR range. IR absorbing agents are also described which comprise, in a mol. thereof, a fluorine-contg. substituent which have .gtoreq.5 fluorine atoms, or a polymethine chain of .gtoreq.5 carbon atoms and an alkyl group of .gtoreq.8 carbon atoms, the alkyl group being connected to the polymethine chain via any of nitrogen, oxygen and sulfur. Planogr. printing plates including the heat mode-applicable image-formation materials are also described.

IT **38954-40-4P 100609-71-0P 379671-80-4P**  
**379671-81-5P**

(IR-sensitive image-forming materials and IR absorbers)

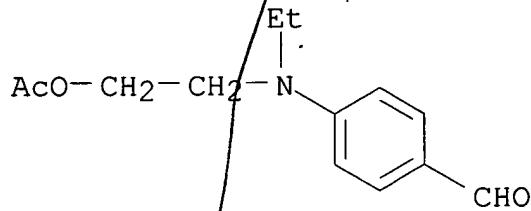
RN 38954-40-4 HCA

CN Ethanol, 2-(ethylphenylamino)-, acetate (ester) (9CI) (CA INDEX NAME)



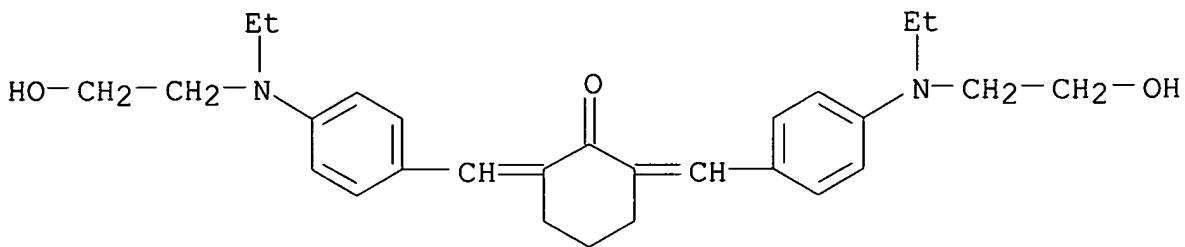
RN 100609-71-0 HCA

CN Benzaldehyde, 4-[[2-(acetyloxy)ethyl]ethylamino]- (9CI) (CA INDEX NAME)



RN 379671-80-4 HCA

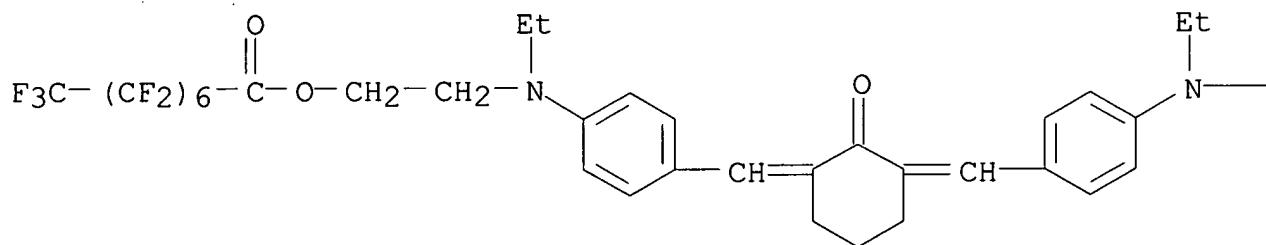
CN Cyclohexanone, 2,6-bis[[4-[ethyl(2-hydroxyethyl)amino]phenyl]methylene]- (9CI) (CA INDEX NAME)



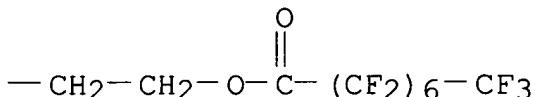
RN 379671-81-5 HCA

CN Octanoic acid, pentadecafluoro-, (2-oxo-1,3-cyclohexanediylidene)bis[methylidyne-4,1-phenylene(ethylimino)-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM B41M005-40

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 25, 27, 28

IT 38954-40-4P 51740-38-6P 100609-71-0P

379671-80-4P 379671-81-5P

(IR-sensitive image-forming materials and IR absorbers)

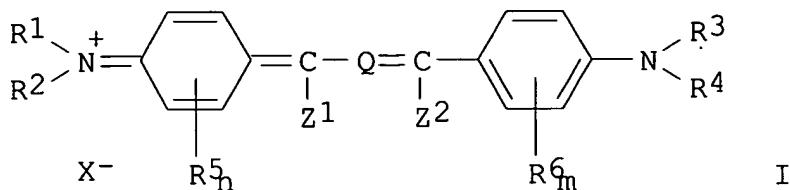
L69 ANSWER 3 OF 8 HCA COPYRIGHT 2005 ACS on STN

134:35063 Negative-working IR-sensitive material for direct printing platemaking. Nakamura, Ippei (Fuji Photo Film Co., Ltd., Japan).

Jpn. Kokai Tokkyo Koho JP 2000338651 A2 20001208, 29 pp.

(Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-151412 19990531.

GI



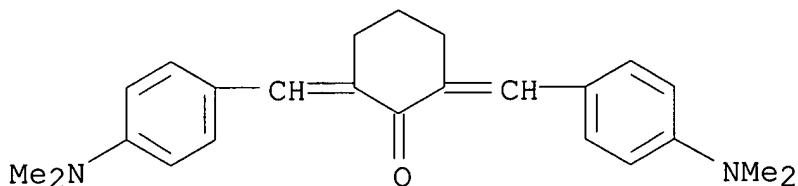
AB The title IR-sensitive material comprises (a) photo- or thermal-acid generator, (b) acid-activatable crosslinking agent, (c) water-insol., alk.-sol. polymer, and (d) IR-absorbing agent represented by general formula I (R1-4 = H, alkyl, aryl; R5, R6 = alkyl, substituted oxy, halo; n, m = 0-4; Z1, Z2 = H, alkyl, aryl; Q = trimethine, pentamethine; X- = counter anion).

IT **18977-38-3P**, 2,6-Bis(4-dimethylaminobenzylidene)cyclohexanone  
**e 38394-53-5P 38954-40-4P 100609-71-0P**  
**301193-31-7P**

(prepn. of IR-absorbing agent for neg.-working IR-sensitive material)

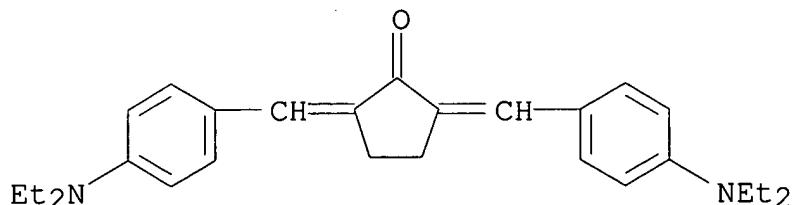
RN 18977-38-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
 (CA INDEX NAME)



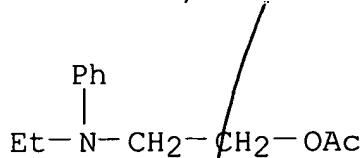
RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
 (CA INDEX NAME)



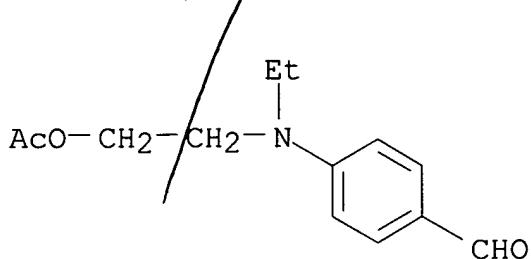
RN 38954-40-4 HCA

CN Ethanol, 2-(ethylphenylamino)-, acetate (ester) (9CI) (CA INDEX NAME)



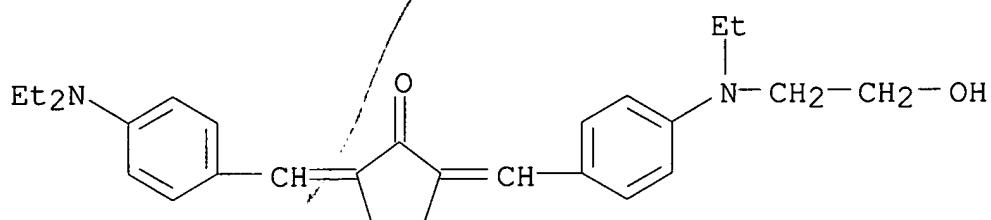
RN 100609-71-0 HCA

CN Benzaldehyde, 4-[[2-(acetyloxy)ethyl]ethylamino]- (9CI) (CA INDEX NAME)



RN 301193-31-7 HCA

CN Cyclopentanone, 2-[[4-(diethylamino)phenyl]methylene]-5-[[4-[ethyl(2-hydroxyethyl)amino]phenyl]methylene]- (9CI) (CA INDEX NAME)



IC ICM G03F007-00

ICS B41N001-14; C08K005-13; C08K005-19; C08L101-12; G03F007-004

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **18977-38-3P**, 2,6-Bis(4-dimethylaminobenzylidene)cyclohexanone

e 22057-80-3P **38394-53-5P** **38954-40-4P**

**100609-71-0P** **301193-31-7P**

(prepn. of IR-absorbing agent for neg.-working IR-sensitive material)

L69 ANSWER 4 OF 8 HCA COPYRIGHT 2005 ACS on STN

133:303571 IR-laser sensitive composition for lithographic plate making by direct imaging. Nakamura, Ippei (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000275828 A2 20001006, 32 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-82401 19990325.

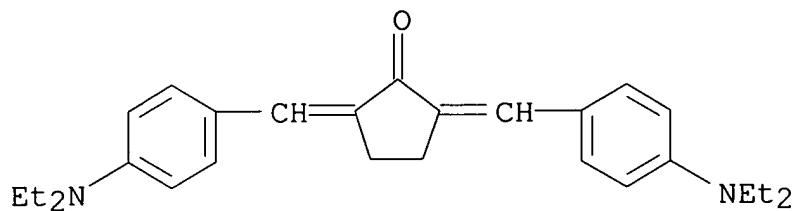
AB The invention relates to an IR-laser sensitive compn. has an IR absorbing material and a polymer insol. in water and sol. in an alkali soln., wherein the compn. shows the high sensitivity and the high development latitude.

IT **38394-53-5P**, 2,5-Bis[4-(diethylamino)benzylidene]cyclopentanone **38954-40-4P** **80601-02-1P** **100609-71-0P**  
**301193-31-7P**

(IR absorbing agent in IR-laser sensitive compn.)

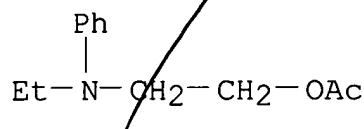
RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



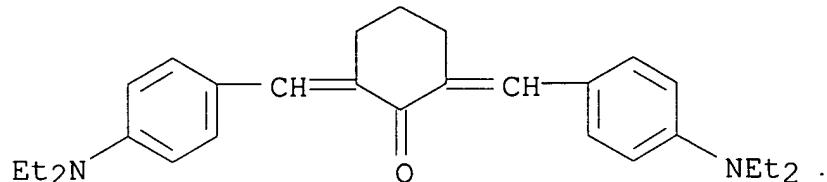
RN 38954-40-4 HCA

CN Ethanol, 2-(ethylphenylamino)-, acetate (ester) (9CI) (CA INDEX NAME)



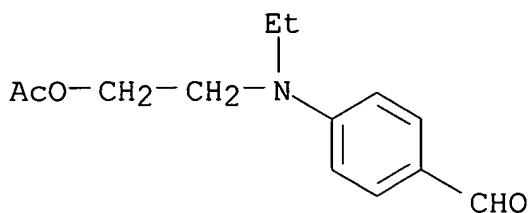
RN 80601-02-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)

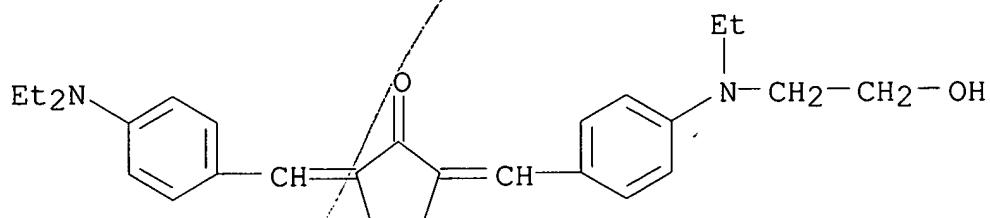


RN 100609-71-0 HCA

CN Benzaldehyde, 4-[[2-(acetyloxy)ethyl]ethylamino]- (9CI) (CA INDEX NAME)



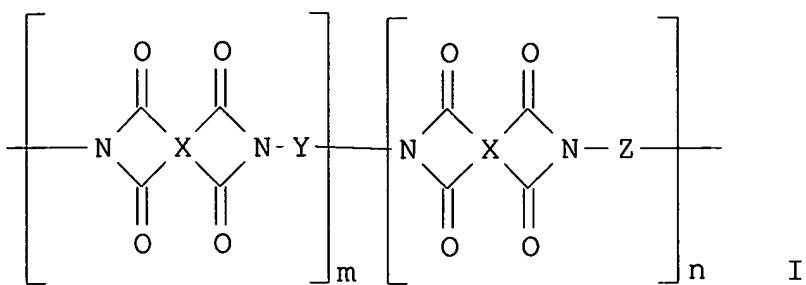
RN 301193-31-7 HCA  
 CN Cyclopentanone, 2-[(4-(diethylamino)phenyl)methylene]-5-[(4-[(ethyl(2-hydroxyethyl)amino)phenyl)methylene]acetoxyethyl]benzaldehyde (9CI) (CA INDEX NAME)



IC ICM G03F007-004  
 ICS B41N001-14; C09B023-00; G03F007-00; G03F007-027; G03F007-20  
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT 10025-87-3P, Phosphoryl chloride 22057-80-3P **38394-53-5P**  
 , 2,5-Bis[4-(diethylamino)benzylidene]cyclopentanone  
**38954-40-4P 80601-02-1P 100609-71-0P**  
 301193-29-3P **301193-31-7P**  
 (IR absorbing agent in IR-laser sensitive compn.)

L69 ANSWER 5 OF 8 HCA COPYRIGHT 2005 ACS on STN  
 130:304033 Photosensitive resin composition. Kato, Hideto (Shin-Etsu  
 Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP  
 11092660 A2 19990406 Heisei, 8 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1997-276463 19970924.

GI

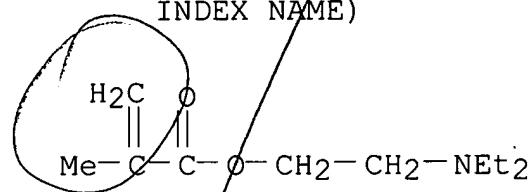


AB The photosensitive resin compn. comprises (1) 0.01-20 wt. parts of a photopolymn. initiator and (2) 100 wt. parts of a polyimide resin with an av. mol. wt. 5,000-150,000 represented by I (X = tetravalent arom. substituent; Y = divalent arom. substituent; Z = divalent siloxane-contg. substituent; and  $0.70 \leq m/(m+n) \leq 0.98$ ). The imidation of the resin compn. film can be carried out at  $250^\circ\text{C}$ , and the resulting film exhibits good adhesion with a substrate without corroding a metal. The resin compn. is sued for a LCD orientation film and an insulating film in a semiconductor device and a printed circuit board.

IT **105-16-8**, Diethylaminoethyl methacrylate **65446-47-1**  
(photopolymn. initiator; photosensitive resin compn.)

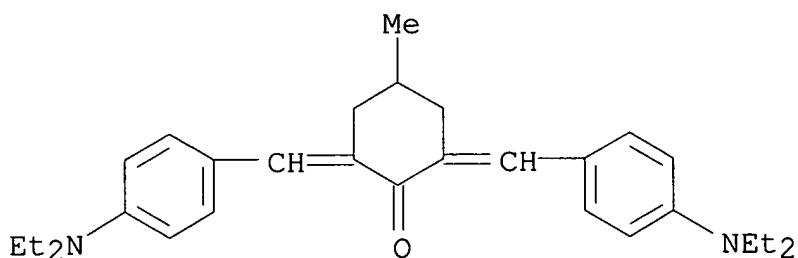
RN 105-16-8 HCA

CN 2-Propenoic acid, 2-methyl-, 2-(diethylamino)ethyl ester (9CI) (CA INDEX NAME)



RN 65446-47-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]-4-methyl- (9CI) (CA INDEX NAME)

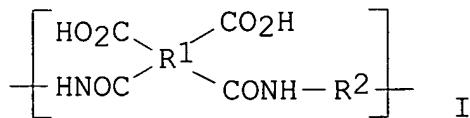


IC ICM C08L079-08

ICS C08K005-00  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 37, 76  
 IT 103-01-5, N-Phenylglycine **105-16-8**, Diethylaminoethyl methacrylate 1076-59-1, 3-Phenyl-5-isoxazolone 7189-82-4  
 10287-54-4, Ethyl 4-diethylaminobenzoate 63226-13-1  
**65446-47-1**  
 (photopolymn. initiator; photosensitive resin compn.)

L69 ANSWER 6 OF 8 HCA COPYRIGHT 2005 ACS on STN  
 114:196380 Thin-film photoresist composition. Sato, Kuniaki; Kojima, Yasunori; Kaji, Makoto; Ishimaru, Toshiaki; Hayashi, Nobuyuki; Kojima, Mitsumasa (Hitachi Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02157845 A2 19900618 Heisei, 15 pp. (Japanese).  
 CODEN: JKXXAF. APPLICATION: JP 1988-313351 19881212.

GI

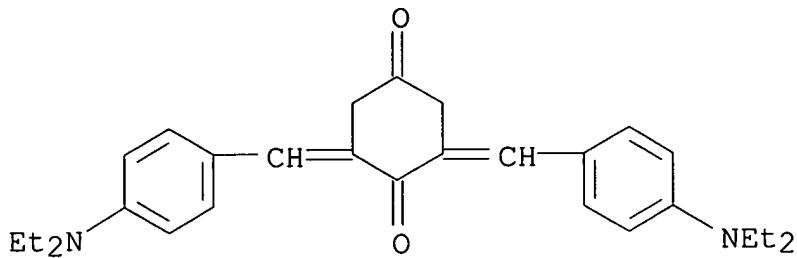


AB A thin-film photoresist compn. comprises (1) a photosensitive adduct formed from a polyimide precursor I [R1 = a tetravalent arom. group; R2 = a divalent org. group] and R3R4C:CR5CO2R6NCO [R3, R4, R5 = H, Me; R6 = a divalent hydrocarbon group] or Y1Y2Y3R7OC(O)NHR8NCO [Y1-3 = H, a monovalent org. group with ethylenic unsatn.; R7 = a tetravalent org. group; R8 = a divalent org. group], (2) a photopolymn. initiation system contg. an aminobenzylidene carbonyl compd. and an N-aryl-.alpha.-amino acid, and (3) an org. solvent. The photoresist compn. has high photosensitivity and good thermal stability and is useful in semiconductor device fabrication.

IT **133461-65-1**  
 (photopolymn. initiator, photoresist compn. contg.)

RN 133461-65-1 HCA

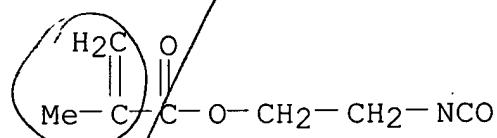
CN 1,4-Cyclohexanedione, 2,6-bis[[4-(diethylamino)phenyl]methylene]-(9CI) (CA INDEX NAME)



IT 30674-80-7D, adduct with polyamic acid  
(photoresist compn. contg.)

RN 30674-80-7 HCA

CN 2-Propenoic acid, 2-methyl-, 2-isocyanatoethyl ester (9CI) (CA  
INDEX NAME)



IC ICM G03F007-027  
ICS C08F002-44; C08F002-46; C08G073-10; C08L079-08; G03F007-004;  
G03F007-031; G03F007-038

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
Section cross-reference(s): 76

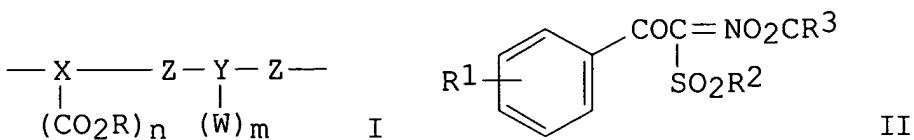
IT 4367-02-6 42288-26-6 **133461-65-1**  
(photopolymn. initiator, photoresist compn. contg.)

IT 24980-39-0D, adduct with isocyanide **30674-80-7D**, adduct  
with polyamic acid 54554-39-1D, polyamic acid adduct  
(photoresist compn. contg.)

L69 ANSWER 7 OF 8 HCA COPYRIGHT 2005 ACS on STN

110:240210 Photosensitive resin compositions containing polyamic acid  
esters and oxime compounds. Suga, Nobuhiko; Ikeda, Akihiko; Ai,  
Hideo (Asahi Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo  
Koho JP 63010612 A2 19880118 Showa, 17 pp. (Japanese). CODEN:  
JKXXAF. APPLICATION: JP 1986-152609 19860701.

GI

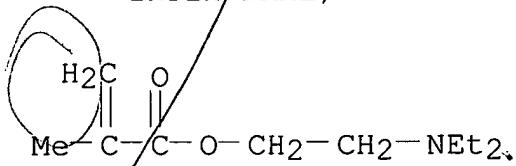


AB The title photosensitive resin compns. contain a polymer with repeating units I [(X = (2+n)-valent carbocycle or heterocycle moiety; Y = (2+m)-valent carbocycle or heterocycle moiety; Z = CONH, NHCONH, O2CNH; R = alkene moiety; W = group capable of reacting with the CO2R group to form a ring; n = 1,2; m = 0,1,2; CO2R group is at o- or p-position with respect to Z position], an oxime compd. of the formula II (R1 = H, C1-6 alkyl, C1-6 alkoxy, NO2; R2 = C1-6 alkoxy, C6-10 aryl, C6-10 aryloxy), and a sensitizer whose absorption max. wavelength is 250-500 nm. Cured patterns from the photosensitive resin compns. have excellent heat-resistance. Thus, an ester of 4,4'-diaminodiphenyl ether-pyromellitic dianhydride copolymer with 2-hydroxyethyl methacrylate 100, PhCOC(SO2Me):NO2CPh 3, and Michlers ketone 3 parts were mixed to give a photosensitive resin compn. having good sensitivity.

IT **105-16-8**, n,n-Diethylaminoethyl methacrylate  
(polyamic acid ester-based photoresist compn. contg.)

RN 105-16-8 HCA

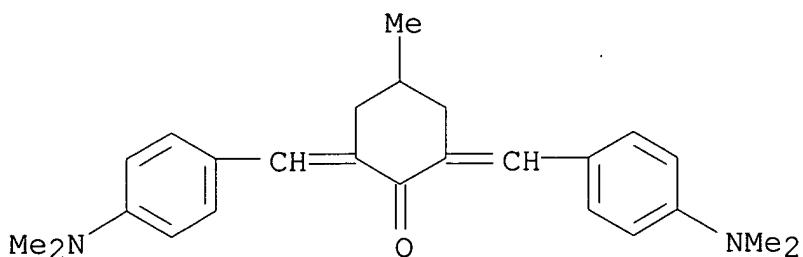
CN 2-Propenoic acid, 2-methyl-, 2-(diethylamino)ethyl ester (9CI) (CA INDEX NAME)



IT **65446-46-0**  
(sensitizer, for polyamic acid ester-based photoresist compns.)

RN 65446-46-0 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-methyl- (9CI) (CA INDEX NAME)



IC ICM C08F299-00  
 ICS C08F002-48; C08F299-02; G03C001-00; G03C001-68; G03C001-71  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT 86-93-1, 1-Phenyl-5-mercaptop-1H-tetrazole 98-29-3,  
 p-tert-Butylcatechol **105-16-8**, n,n-Diethylaminoethyl  
 methacrylate 110-26-9, Methylenebisacrylamide 149-30-4,  
 2-Mercaptobenzothiazole 583-39-1, 2-Mercaptobenzimidazole  
 2530-85-0 2897-60-1, Diethoxy-3-glycidyloxypropylmethoxymethylsilane  
 14513-34-9, 3-Methacryloyloxypropylmethoxymethylsilane  
 15625-89-5, Trimethylolpropane triacrylate 17831-71-9,  
 Tetraethylene glycol diacrylate 31432-60-7, N-Nitrodiphenylamine  
 (polyamic acid ester-based photoresist compn. contg.)  
 IT 90-93-7, 4,4'-Bis(diethylamino)benzophenone 90-94-8, Michler's  
 ketone 91-44-1 120-07-0, n-Phenyldiethanolamine 1161-22-4,  
 4,4'-Bis(dimethylamino)chalcone 1628-58-6 5706-20-7 6673-14-9  
 63226-13-1 **65446-46-0**  
 (sensitizer, for polyamic acid ester-based photoresist compns.)

L69 ANSWER 8 OF 8 HCA COPYRIGHT 2005 ACS on STN  
 94:183456 Photopolymerizable compositions based on salt-forming polymers  
 and polyhydroxy polyethers. Chambers, William J. (du Pont de  
 Nemours, E. I., and Co., USA). U.S. US 4245031 19810113, 16 pp.  
 Cont.-in-part of U.S. Ser. No. 892,296, abandoned. (English).  
 CODEN: USXXAM. APPLICATION: US 1979-76621 19790918.

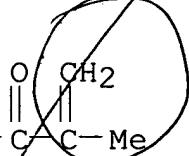
GI For diagram(s), see printed CA Issue.  
 AB Photopolymerizable compns. contg. a polymer having a plurality of  
 salt-forming groups, an ethylenically unsatd. compd. have .gtoreq.1  
 complementary salt-forming group, an ethylenically unsatd. diester  
 polyhydroxy polyether of the structure I (R = H or Me; R1 = H or  
 C1-4 alkyl group; n = 1-15; p = 0 or 1; and when p is 1, R2 is H or  
 Me, and R3 is H, Me or Et), and a radiation-sensitive, free-radical  
 generating system provide photopolymerizable elements which have  
 outstanding photospeeds and are relatively insensitive to O. Thus,  
 a mixt. of 2.5 parts polyamide resin (Versamid 125), 4.0 parts  
 itaconic acid, 1.0 part Epocryl 12, 0.3 part benzophenone, 0.3 part  
 2-(o-chlorophenyl)-4,5-diphenylimidazolyl dimer, 0.25 part Michler's  
 ketone and 0.05 part C.I. Solvent Red Dye #109 was dissolved in a  
 mixt. of 20 parts methanol and 10 parts 2-butoxyethanol, spin-coated  
 onto anodized Al supports (2000 rpm for 0.75 min), exposed for 1 s  
 in air to a 275-W sunlamp held 7.5 in. away from the samples through  
 a 21-step step wedge process transparency in which the transmittance  
 of radiation between steps differs by a factor of .sqroot.2,  
 developed for 10 s in H2O to show 3 steps, dampened with AGE  
 (asphaltum gum arabic emulsion), dampened with fountain soln., and  
 then inked with a std. black lithog. printing ink to give a good  
 print after pressing directly on paper.

IT **2867-47-2 38394-52-4**

(photoimaging photopolymerizable compn. contg., rapid-speed)

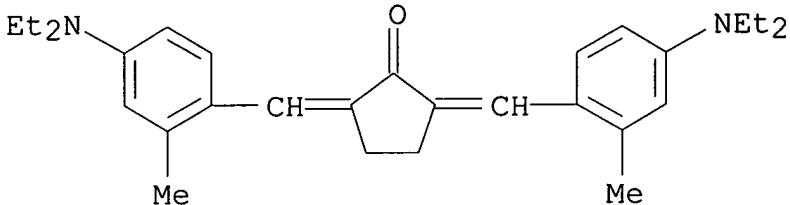
RN 2867-47-2 HCA

CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester (9CI) (CA INDEX NAME)

Me<sub>2</sub>N-CH<sub>2</sub>-CH<sub>2</sub>-O-C(=O)C(Me)-CH<sub>2</sub>

RN 38394-52-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)-2-methylphenyl]methylene]-(9CI) (CA INDEX NAME)



IC G03C001-68

INCL 430288000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT 57-11-4, uses and miscellaneous 84-51-5 90-94-8 97-65-4, uses  
 and miscellaneous 100-43-6 106-10-5 119-61-9, uses and  
 miscellaneous 123-31-9, uses and miscellaneous 149-30-4  
 621-82-9, uses and miscellaneous 1707-68-2 **2867-47-2**  
 9002-89-5 9011-13-6 9011-14-7 20357-25-9 22499-12-3  
 25014-15-7 25086-15-1 25135-39-1 25232-41-1 29729-87-1  
 29777-36-4 36425-15-7 37189-83-6 37300-17-7 37331-99-0  
**38394-52-4** 53814-24-7 70431-39-9

(photoimaging photopolymerizable compn. contg., rapid-speed)

=&gt; d 170 1-13 cbib abs hitstr hitind

L70 ANSWER 1 OF 13 HCA COPYRIGHT 2005 ACS on STN

143:164942 Electron emitters having high emission efficiency and  
 photocurable compositions therefor. You, Seung-Joon; Kim,  
 Jae-Myung; Nam, Joong-Woo; Lee, Soo-Kyung; Moon, Jong-Woon; Lee,  
 Hyun-Joon (Samsung SDI Co., Ltd., S. Korea). Jpn. Kokai Tokkyo Koho  
 JP 2005197247 A2 20050721, 14 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 2004-369872 20041221. PRIORITY: KR 2004-1476  
 20040109.

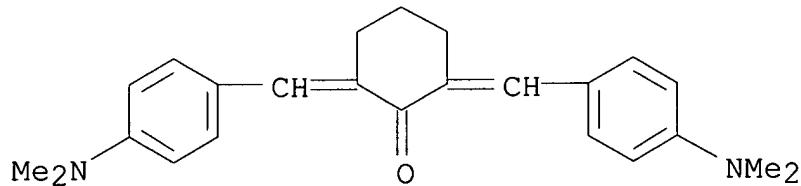
AB Compns. contg. org. binder resins, carbon substances, solvents, silane compds. R'SiR<sub>3</sub> [R = alkyl, alkoxy, Cl, F, Br; R' = vinyl, epoxy, methacryl, amino, mercapto, or 2-(3,4-epoxycyclohexyl)ethyl], and optionally glass frits are claimed. Compns. contg. carbon substances, solvents, photosensitive monomers, photosensitive polymers/oligomers, photopolymn. initiators, and the silanes as above, are further claimed. The compns. are printed on substrates to form electron emitters with good adhesion to substrates. Further claimed are field emission displays holding the emitters, phosphor films, and black matrix patterns.

IT **18977-38-3 65446-46-0 261360-66-1**

(photopolymn. initiators; field emission cathodes formed from carbon pastes contg. sp. silanes and showing good adhesion to display substrates)

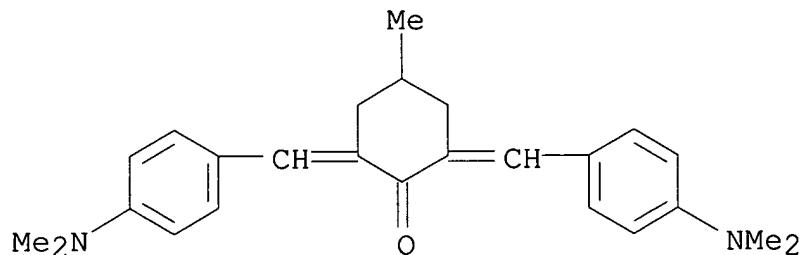
RN 18977-38-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



RN 65446-46-0 HCA

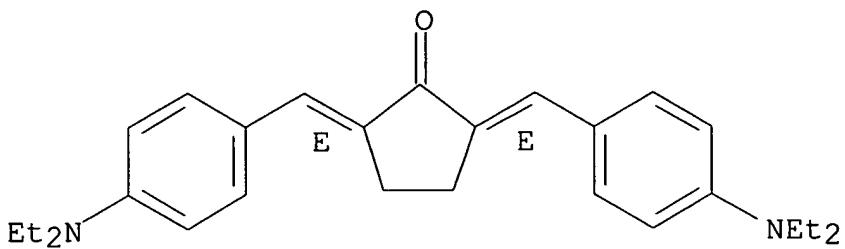
CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-methyl- (9CI) (CA INDEX NAME)



RN 261360-66-1 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]-, (2E,5E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IC ICM H01J031-12  
 ICS H01J001-304; H01J009-02; H01J029-04  
 CC 76-11 (Electric Phenomena)  
 Section cross-reference(s): 74  
 IT 82-05-3, Benzanthrone 84-47-9, 2-tert-**Butylanthraquinone**  
 84-65-1, **Anthraquinone** 86-39-5, 2-Chlorothioxanthone  
 90-44-8, Anthrone 90-93-7 90-94-8 90-98-2 92-50-2  
 102-04-5, Dibenzyl ketone 119-53-9, Benzoin 119-61-9,  
 Benzophenone, uses 122-98-5, N-Phenylethanolamine 131-09-9,  
 .beta.-**Chloroanthraquinone** 486-25-9, Fluorenone  
 492-22-8, Thioxanthone 606-28-0, Methyl o-benzoylbenzoate  
 1161-22-4 1210-35-1, Dibenzosuberone 2179-02-4 3077-12-1  
 3524-62-7, Benzoin methyl ether 4159-04-0, Methylene anthrone  
 5284-79-7, 2,6-Bis(p-azidobenzylidene)-4-methylcyclohexanone  
 5495-84-1, 2-Isopropylthioxanthone 5706-20-7 6175-45-7,  
 2,2-Diethoxyacetophenone 6767-30-2 7473-98-5, 2-Hydroxy-2-methyl  
 propiophenone 13936-21-5, 2-**Amylanthraquinone**  
 15774-82-0, 2-Methylthioxanthone **18977-38-3** 20237-98-3,  
 2,6-Bis(p-azidobenzylidene)cyclohexanone 21431-38-9 22499-11-2,  
 Benzoin butyl ether 24650-42-8, 2,2-Dimethoxy-2-phenylacetophenone  
 41657-71-0, 4-Azidobenzalacetophenone 42391-37-7 50807-17-5  
 55163-72-9 63226-13-1, 3,3-Carbonylbis(7-diethylaminocoumarin)  
 63757-55-1 **65446-46-0** 69677-75-4 82612-95-1, Isoamyl  
 dimethylaminobenzoate 100752-97-4, Diethylthioxanthone  
 124187-69-5 136482-23-0 **261360-66-1**  
 (photopolymn. initiators; field emission cathodes formed from  
 carbon pastes contg. sp. silanes and showing good adhesion to  
 display substrates)

L70 ANSWER 2 OF 13 HCA COPYRIGHT 2005 ACS on STN  
 143:162740 High-efficiency nonresonant two-photon-absorbing organic  
 materials and their applications. Akiba, Masaharu; Tani, Takeharu;  
 Morinaga, Naoki; Takizawa, Hiroo (Fuji Photo Film Co., Ltd., Japan).  
 Jpn. Kokai Tokkyo Koho JP 2005195922 A2 20050721, 69 pp.  
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 2004-2743 20040108.  
 AB The materials contain TPAD1L(TPAD2)<sub>n</sub> (I; TPAD1, TPAD2 = group contg.  
 nonresonant two-photon-absorbing chromophore; L = linkage, single  
 bond, atom; n = 1-7). Preferably, the TPAD1 and TPAD2 are cyanine

dyes, streptocyanine dyes, merocyanine dyes, oxonol dyes, stilbazolium dye, or groups contg.  $X_2(CR_4:CR_3)mC:Y(CR_1:CR_2)nX_1$  [ $R_1-R_4 = H$ , substituent:  $Y = O$ , at. group contg. CN, COMe, SO<sub>2</sub>, etc.;  $X_1, X_2 =$  aryl, heterocyclyl, 5- or 6-membered azacyclic group (structure given);  $m, n = 0-4$ ;  $m = n$  .noteq. 0;]. The materials are useful for luminescent materials, polymerizable compns., optical recording materials, and image forming materials, which are irradiated with laser at wavelength longer than linear absorption band of I in actual use.

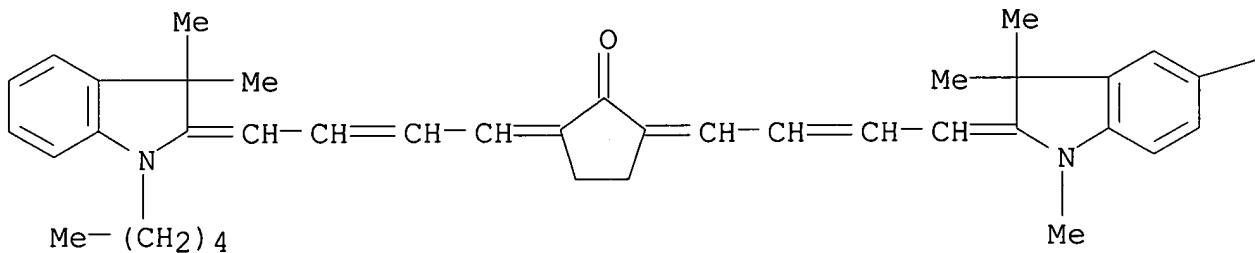
IT 718636-51-2P

(high-efficiency nonresonant two-photon-absorbing org. materials for luminescent materials, polymerizable compns., optical recording materials, and image forming materials)

RN 718636-51-2 HCA

CN 1H-Indole-5-carboxylic acid, 2-[4-[3-[4-(1,3-dihydro-3,3-dimethyl-1-pentyl-2H-indol-2-ylidene)-2-butenylidene]-2-oxocyclopentylidene]-2-butenylidene]-2,3-dihydro-1,3,3-trimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

 $\text{--CO}_2\text{H}$ 

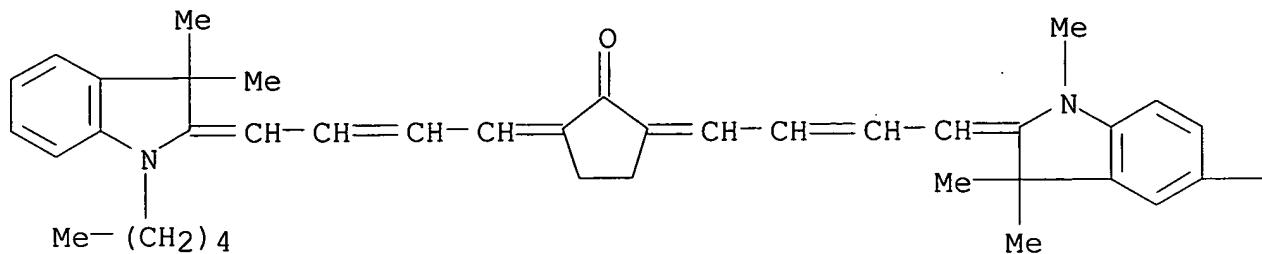
IT 859500-49-5P 859500-50-8P

(high-efficiency nonresonant two-photon-absorbing org. materials for luminescent materials, polymerizable compns., optical recording materials, and image forming materials)

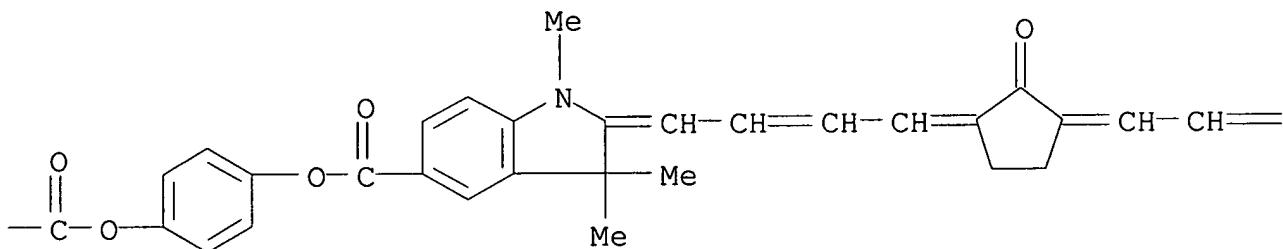
RN 859500-49-5 HCA

CN 1H-Indole-5-carboxylic acid, 2-[4-[3-[4-(1,3-dihydro-3,3-dimethyl-1-pentyl-2H-indol-2-ylidene)-2-butenylidene]-2-oxocyclopentylidene]-2-butenylidene]-2,3-dihydro-1,3,3-trimethyl-, 1,4-phenylene ester (9CI) (CA INDEX NAME)

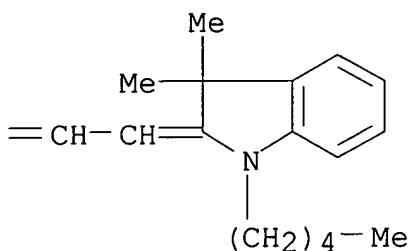
PAGE 1-A



PAGE 1-B



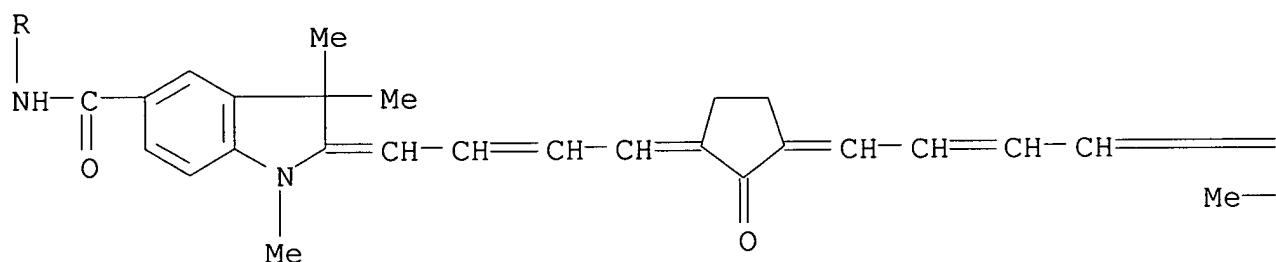
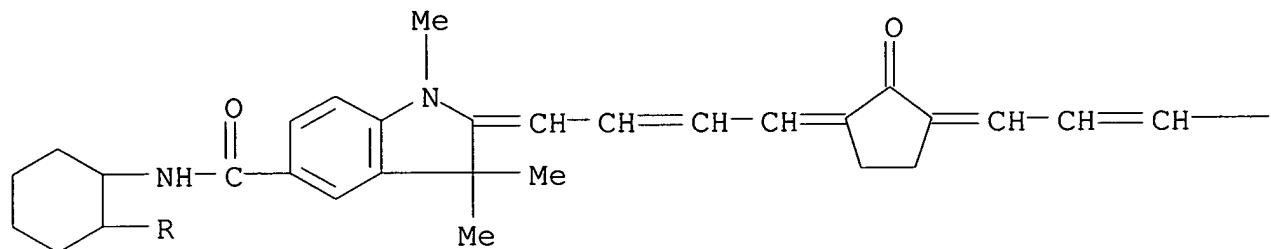
PAGE 1-C



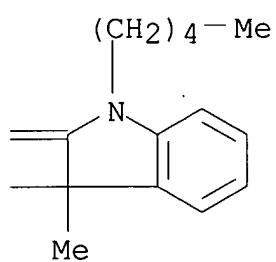
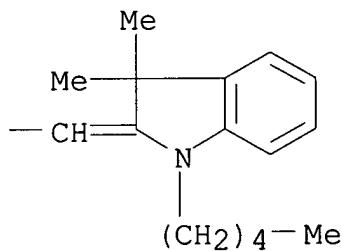
RN 859500-50-8 HCA

CN 1H-Indole-5-carboxamide, N,N'-1,2-cyclohexanediylbis[2-[4-[3-[4-(1,3-dihydro-3,3-dimethyl-1-pentyl-2H-indol-2-ylidene)-2-butenylidene]-2-oxocyclopentylidene]-2-but enylidene]-2,3-dihydro-1,3,3-trimethyl- (9CI) (CA INDEX NAME)

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PAGE 1-B



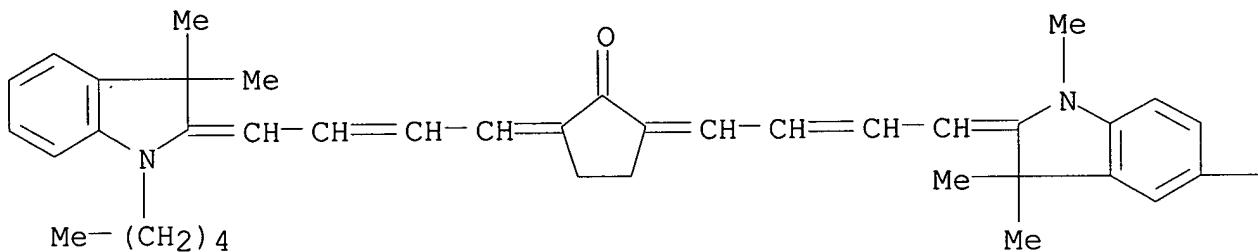
IT **859500-51-9 859500-52-0**

(high-efficiency nonresonant two-photon-absorbing org. materials for luminescent materials, polymerizable compns., optical recording materials, and image forming materials)

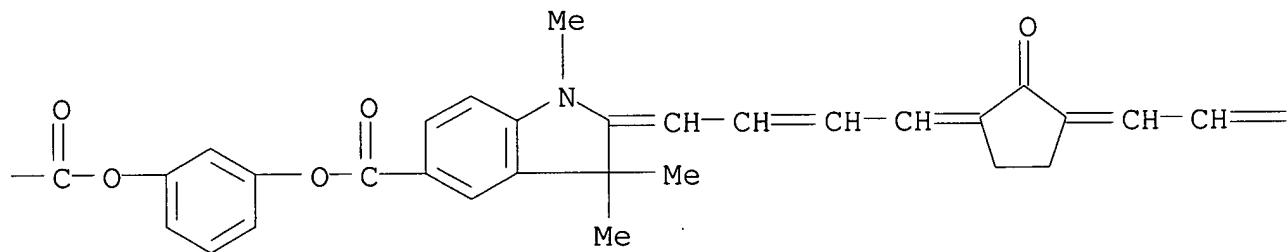
RN 859500-51-9 HCA

CN 1H-Indole-5-carboxylic acid, 2-[4-[3-[4-(1,3-dihydro-3,3-dimethyl-1-pentyl-2H-indol-2-ylidene)-2-butenylidene]-2-oxocyclopentylidene]-2-butenylidene]-2,3-dihydro-1,3,3-trimethyl-, 1,3-phenylene ester  
(9CI) (CA INDEX NAME)

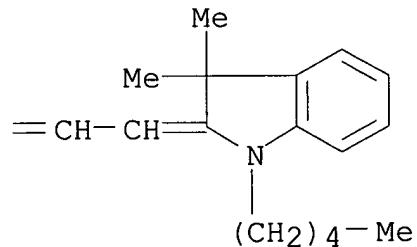
PAGE 1-A



PAGE 1-B

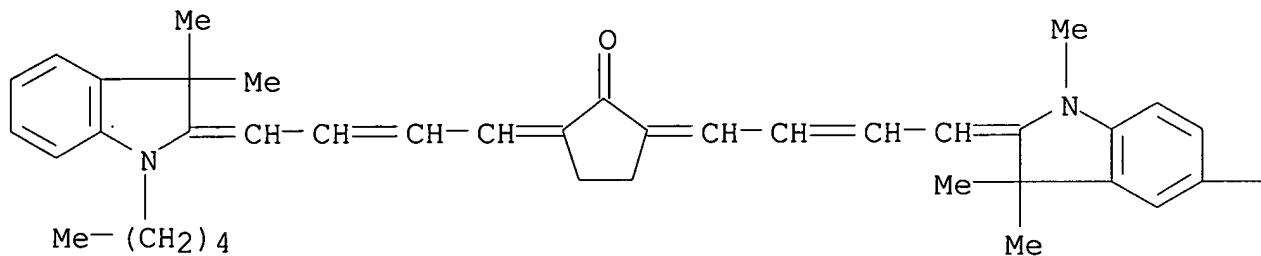


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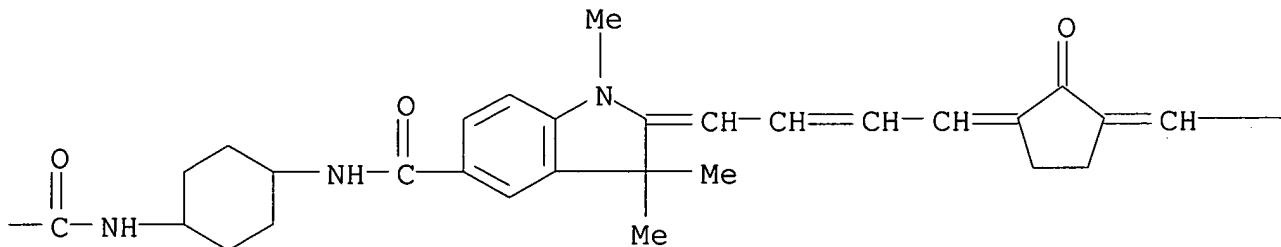


RN 859500-52-0 HCA  
 CN 1H-Indole-5-carboxamide, N,N'-1,4-cyclohexanediylbis[2-[4-[3-[4-(1,3-dihydro-3,3-dimethyl-1-pentyl-2H-indol-2-ylidene)-2-butenylidene]-2-oxocyclopentylidene]-2-butenylidene]-2,3-dihydro-1,3,3-trimethyl-(9CI) (CA INDEX NAME)

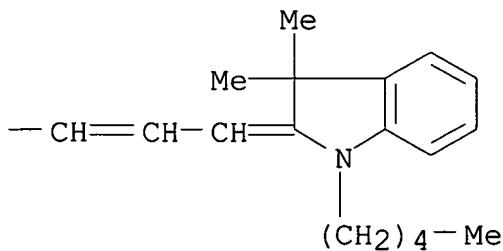
PAGE 1-A



PAGE 1-B



PAGE 1-C



IC ICM G02F001-361  
 ICS C08K005-00; C08L101-00; C09K011-06; G11B007-24; C09B023-00

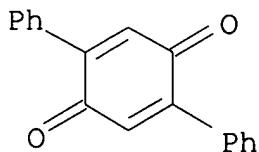
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 27, 38, 74  
 IT **718636-51-2P** 859500-47-3P  
 (high-efficiency nonresonant two-photon-absorbing org. materials for luminescent materials, polymerizable compns., optical recording materials, and image forming materials)  
 IT **859500-49-5P 859500-50-8P**  
 (high-efficiency nonresonant two-photon-absorbing org. materials for luminescent materials, polymerizable compns., optical recording materials, and image forming materials)  
 IT 120-92-3D, Cyclopentanone, cyclopentanone 123-31-9,  
**Hydroquinone**, reactions 694-83-7, 1,2-Cyclohexanediamine  
 681836-46-4 859500-48-4  
 (high-efficiency nonresonant two-photon-absorbing org. materials for luminescent materials, polymerizable compns., optical recording materials, and image forming materials)  
 IT **859500-51-9 859500-52-0**  
 (high-efficiency nonresonant two-photon-absorbing org. materials for luminescent materials, polymerizable compns., optical recording materials, and image forming materials)

L70 ANSWER 3 OF 13 HCA COPYRIGHT 2005 ACS on STN  
 129:217399 Manufacture of photosensitive polyimide precursors and their compositions having stable viscosity. Yoshikawa, Haruhiko; Takemoto, Kazunari; Tanaka, Osamu; Isoda, Keiko; Uchimura, Shunichiro; Kaji, Makoto; Kanao, Osamu (Hitachi, Ltd., Japan; Hitachi Chemical Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 10204176 A2 19980804 Heisei, 26 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-10941 19970124.

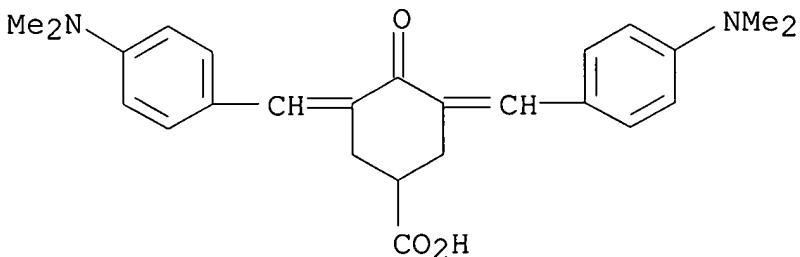
AB The polyimide precursors representing repeating units [COR1(CO2R3)2CONHR2AnNH] (R1 = C.gtoreq.4 tetravalent org. groups; R2 = trivalent or tetravalent org. groups contg. arom. rings; R3 = monovalent org. groups; A = acidic monovalent groups; n = 1, 2) and having Mw 10,000-200,000, are prep'd. in the presence of hardly water-sol. polymn. inhibitors. The compns., useful for photoresists or elec. packaging, etc., the polyimide precursors 100, sensitizers 0.1-50, and photopolymn. assistants 0.1-50 parts. Thus, acid chloride prep'd. from 3,3',4,4'-biphenyltetracarboxylic acid dianhydride, 2-hydroxyethyl methacrylate, and thionyl chloride, was reacted with 3,5-diaminobenzoic acid in the presence of 3,5-di-tert-butylcatechol to give a polyimide precursor (Mw calcd. as polystyrene 44,000), 10 g of which was mixed with 100 mg 3,5-bis(4-diethylaminobenzylidene)-1-methyl-4-azacyclohexanone and 200 mg 4-diethylaminoethyl benzoate to give a compn. showing viscosity at 25.degree. 4.50 mPas and 4.60 mPas before and after 1-wk storage at room temp, resp. Then, a coating film prep'd. by applying the compn. to a silicon wafer, was exposed to 365 nm-UV

radiation at 200 mJ/cm<sup>2</sup>, developed, and cured at 200.degree. for 30 min and 400.degree. for 60 min to give a polyimide film showing elongation 9% and sensitivity 80 mJ/cm<sup>2</sup>.

IT **844-51-9, 2,5-Diphenyl-p-benzoquinone**  
 (polymn. inhibitor; manuf. of photosensitive polyimide precursors compns.)  
 RN 844-51-9 HCA  
 CN 2,5-Cyclohexadiene-1,4-dione, 2,5-diphenyl- (9CI) (CA INDEX NAME)



IT **212136-95-3**  
 (sensitizers; manuf. of photosensitive polyimide precursors compns.)  
 RN 212136-95-3 HCA  
 CN Cyclohexanecarboxylic acid, 3,5-bis[[4-(dimethylamino)phenyl]methylene]-4-oxo- (9CI) (CA INDEX NAME)



IC ICM C08G073-10  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 74  
 IT **844-51-9, 2,5-Diphenyl-p-benzoquinone** 1020-31-1,  
 3,5-Di-tert-butylcatechol 1898-66-4 31432-60-7, N-Nitrodiphenyl  
 amine  
 (polymn. inhibitor; manuf. of photosensitive polyimide precursors  
 compns.)  
 IT 82-05-3, Benzanthrone 90-94-8, Michler's ketone 91-44-1,  
 7-Diethylamino-4-methylcoumarin 4367-02-6 82799-44-8,  
 2,4-Diethylthioxanthone **212136-95-3**  
 (sensitizers; manuf. of photosensitive polyimide precursors  
 compns.)

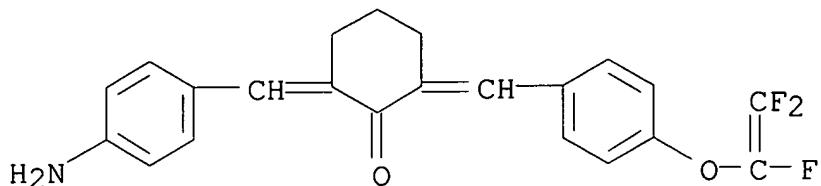
122:147304 Photodefinable polymers containing perfluorocyclobutane groups. Babb, David A.; Richey, W. Frank; Clement, Katherine S.; Moyer, Eric S.; Sorenson, Marius W. (Dow Chemical Co., USA). PCT Int. Appl. WO 9415258 A1 19940707, 75 pp. DESIGNATED STATES: W: CA, JP, KR; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1993-US11562 19931201. PRIORITY: US 1992-996452 19921224.

AB The title polymer has .gtoreq.1 photoactive site and >1 perfluorocyclobutane group. New monomers contg. photoactive sites or photoactive precursors and .gtoreq.1 perfluorovinyl group are useful for making such polymers. Processes of making such polymers and the monomers from which they are made are disclosed. The polymers are useful in coatings, photoresists, and other photoactive applications.

IT **161250-47-1**, 2-(4-Aminobenzylidene)-6-(4-trifluoroethoxybenzylidene)cyclohexanone **161250-48-2**, 2-(4-Aminobenzylidene)-6-(4-trifluoroethoxybenzylidene)-4-methylcyclohexanone **161250-51-7**, 2-(4-Isocyanatobenzylidene)-5-(4-trifluoroethoxybenzylidene)cyclohexanone **161250-52-8**, 2-(4-Isocyanatobenzylidene)-6-(4-trifluoroethoxybenzylidene)-4-methylcyclohexanone (monomer for photodefinable polymer)

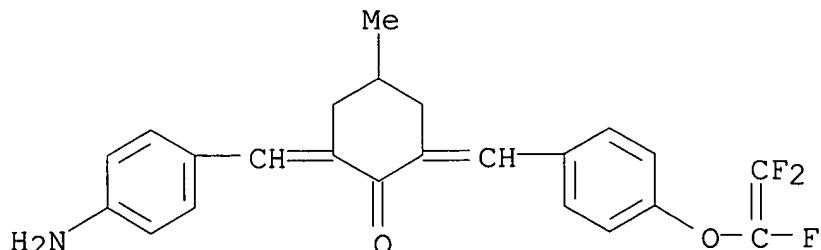
RN 161250-47-1 HCA

CN Cyclohexanone, 2-[(4-aminophenyl)methylene]-6-[[4-[(trifluoroethenyl)oxy]phenyl)methylene]- (9CI) (CA INDEX NAME)



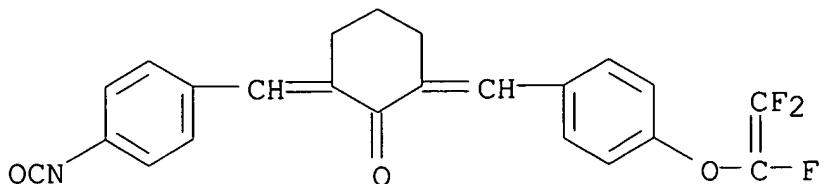
RN 161250-48-2 HCA

CN Cyclohexanone, 2-[(4-aminophenyl)methylene]-4-methyl-6-[[4-[(trifluoroethenyl)oxy]phenyl)methylene]- (9CI) (CA INDEX NAME)



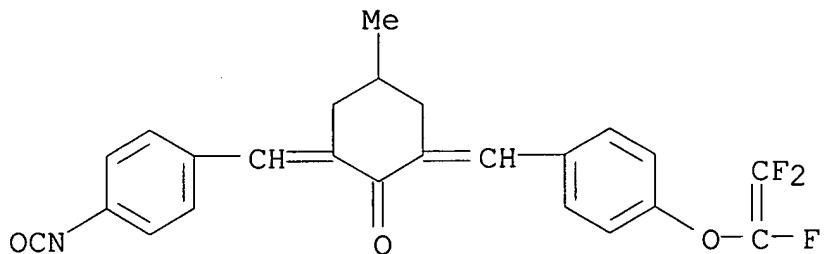
RN 161250-51-7 HCA

CN Cyclohexanone, 2-[(4-isocyanatophenyl)methylene]-6-[(4-[(trifluoroethenyl)oxy]phenyl)methylene]- (9CI) (CA INDEX NAME)



RN 161250-52-8 HCA

CN Cyclohexanone, 2-[(4-isocyanatophenyl)methylene]-4-methyl-6-[(4-[(trifluoroethenyl)oxy]phenyl)methylene]- (9CI) (CA INDEX NAME)



IC ICM G03F007-004

ICS C07C043-17; C08F016-32

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35

IT 161249-96-3 161249-98-5 161249-99-6 161250-00-6,  
 .beta.- (4-Hydroxybenzylidene)-4-(trifluoroethoxy)acetophenone  
 161250-01-7, .beta.- (4-Acetylbenzylidene)-4-  
 (trifluoroethoxy)acetophenone 161250-02-8,  
 .beta.- (4-Acyloxybenzylidene)-4-(trifluoroethoxy)acetophenone  
 161250-03-9, .beta.- (4-Aminobenzylidene)-4-  
 (trifluoroethoxy)acetophenone 161250-04-0,  
 .beta.- (4-Carboxybenzylidene)-4-(trifluoroethoxy)acetophenone  
 161250-05-1, .beta.- (4-Isocyanatobenzylidene)-4-  
 (trifluoroethoxy)acetophenone 161250-06-2,  
 .beta.- (4-Chlorocarboxybenzylidene)-4-(trifluoroethoxy)acetophenone 161250-07-3, .beta.- (4-Carboxymethylbenzylidene)-4-  
 (trifluoroethoxy)acetophenone 161250-08-4,  
 .beta.- (4-Carboxyethylbenzylidene)-4-(trifluoroethoxy)acetophenone 161250-09-5, 4-Hydroxy-.beta.- (4-trifluoroethoxybenzylidene)  
 )acetophenone 161250-10-8, 4-Amino-.beta.- (4-  
 trifluoroethoxybenzylidene)acetophenone 161250-11-9,

4-Carboxy-.beta.- (4-trifluoroethoxybenzylidene)acetophenone  
161250-12-0, 4-Chlorocarboxy-.beta.- (4-trifluoroethoxybenzylidene)acetophenone 161250-13-1, 4-Isocyanato-.beta.- (4-trifluoroethoxybenzylidene)acetophenone 161250-14-2,  
4-Carboxymethyl-.beta.- (4-trifluoroethoxybenzylidene)acetophenone 161250-15-3 161250-16-4, 1-(4-Hydroxyphenyl)-2-(4-trifluoroethoxyphenyl)-1-propene 161250-17-5,  
2-(4-Hydroxyphenyl)-1-(4-trifluoroethoxyphenyl)-1-propene 161250-18-6, 1-(4-Aminophenyl)-2-(4-trifluoroethoxyphenyl)-1-propene 161250-19-7, 2-(4-Aminophenyl)-1-(4-trifluoroethoxyphenyl)-1-propene 161250-20-0,  
1-(4-Carboxyphenyl)-2-(4-trifluoroethoxyphenyl)-1-propene 161250-21-1, 2-(4-Carboxyphenyl)-1-(4-trifluoroethoxyphenyl)-1-propene 161250-22-2, 1-(4-Chlorocarboxyphenyl)-2-(4-trifluoroethoxyphenyl)-1-propene 161250-23-3,  
2-(4-Chlorocarboxyphenyl)-1-(4-trifluoroethoxyphenyl)-1-propene 161250-24-4, 1-(4-Isocyanatophenyl)-2-(4-trifluoroethoxyphenyl)-1-propene 161250-25-5, 2-(4-Isocyanatophenyl)-1-(4-trifluoroethoxyphenyl)-1-propene 161250-26-6,  
1-(4-Carboxymethylphenyl)-2-(4-trifluoroethoxyphenyl)-1-propene 161250-27-7 161250-28-8, 4-Hydroxy-4'-trifluoroethoxyloxystibene  
161250-29-9, 4-Aminophenyl-4'-trifluoroethoxyloxystilbene  
161250-30-2, 4-Carboxyphenyl-4'-trifluoroethoxyloxystilbene  
161250-31-3, 4-Isocyanato-4'-trifluoroethoxyloxystilbene  
161250-32-4, 4-Carboxymethylphenyl-4'-trifluoroethoxyloxystilbene  
161250-33-5, 5-Hydroxy-8-trifluoroethoxyloxyphthalimide  
161250-34-6, 1-(4-Hydroxyphenyl)-5-(4-trifluoroethoxyphenyl)-1,4-pentadien-3-one 161250-35-7, 1-(4-Aminophenyl)-5-(4-trifluoroethoxyphenyl)-1,4-pentadien-3-one 161250-36-8,  
1-(4-Carboxyphenyl)-5-(4-trifluoroethoxyphenyl)-1,4-pentadien-3-one 161250-37-9 161250-38-0, 1-(4-Isocyanatophenyl)-5-(4-trifluoroethoxyphenyl)-1,4-pentadien-3-one 161250-39-1,  
5-Hydroxy-8-trifluoroethoxyloxycoumarin 161250-40-4,  
8-Hydroxy-5-trifluoroethoxyloxycoumarin 161250-41-5,  
5-Amino-8-trifluoroethoxyloxycoumarin 161250-42-6,  
8-Amino-5-trifluoroethoxyloxycoumarin 161250-43-7,  
5-Isocyanato-8-trifluoroethoxyloxycoumarin 161250-44-8,  
8-Isocyanato-5-trifluoroethoxyloxycoumarin 161250-45-9,  
2-(4-Hydroxybenzylidene)-6-(4-trifluoroethoxybenzylidene)cyclohexanone 161250-46-0, 2-(4-Hydroxybenzylidene)-6-(4-trifluoroethoxybenzylidene)-4-methylcyclohexanone  
**161250-47-1**, 2-(4-Aminobenzylidene)-6-(4-trifluoroethoxybenzylidene)cyclohexanone **161250-48-2**,  
2-(4-Aminobenzylidene)-6-(4-trifluoroethoxybenzylidene)-4-methylcyclohexanone 161250-49-3, 2-(4-Carboxymethylbenzylidene)-6-(4-trifluoroethoxybenzylidene)cyclohexanone 161250-50-6,  
2-(4-Carboxymethylbenzylidene)-6-(4-trifluoroethoxybenzylidene)-4-methylcyclohexanone **161250-51-7**, 2-(4-

Isocyanatobenzylidene)-5-(4-trifluoroethoxybenzylidene)cyclohexanone **161250-52-8**, 2-(4-Isocyanatobenzylidene)-6-(4-trifluoroethoxybenzylidene)-4-methylcyclohexanone 161250-53-9  
161250-54-0, 2-(4-Chlorocarboxybenzylidene)-6-(4-trifluoroethoxybenzylidene)-4-methylcyclohexanone 161250-55-1, 1-(4-Acroyloxyphenyl)-1,1-bis(4-trifluoroethoxyphenyl)ethane 161250-56-2, 1-(4-Methacroyloxyphenyl)-1,1-bis(4-trifluoroethoxyphenyl)ethane 161250-57-3, 1-(4-Acroylphenyl)-1,1-bis(4-trifluoroethoxyphenyl)ethane 161250-58-4, 1-(4-Methacroylphenyl)-1,1-bis(4-trifluoroethoxyphenyl)ethane 161250-59-5 161250-60-8 161250-61-9 161250-62-0, 4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)-.beta.-(4-trifluoromethylbenzylidene)acetophenone 161250-63-1, 4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)-.beta.-(4-carboxymethylbenzylidene)acetophenone 161250-64-2 161250-65-3, 4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)-.beta.-(4-chlorobenzylidene)acetophenone 161250-66-4, 4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)-.beta.-(4-fluorobenzylidene)acetophenone 161250-67-5, 4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)-.beta.-(4-acetylbenzylidene)acetophenone 161250-68-6 161250-69-7, 4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)styrene 161250-70-0, 4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)-N-phenylmaleimide 161250-71-1, 1-(4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenyl)-5-phenyl-1,4-pentadiene-3-one 161250-72-2, 1-(4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenyl)-5-(4-(dimethylamino)phenyl)-1,4-pentadiene-3-one 161250-73-3, 1-(4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenyl)-5-(4-methoxyphenyl)-1,4-pentadiene-3-one 161250-74-4, 1-(4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenyl)-5-(4-(carboxymethyl)phenyl)-1,4-pentadiene-3-one 161250-75-5, 1-(4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenyl)-5-(4-(carboxyethyl)phenyl)-1-4-pentadiene-3-one 161250-76-6, 1-(4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenyl)-5-(4-(trifluoromethyl)phenyl)-1,4-pentadiene-3-one 161250-77-7, 1-(4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenyl)-5-(4-nitrophenyl)1,4-pentadiene-3-one 161250-78-8, 1-(4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenyl)-5-(4-chlorophenyl)-1,4-pentadiene-3-one 161250-79-9, 1-(4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenyl)-5-(4-fluorophenyl)-1,4-pentadiene-3-one 161250-80-2, 1-(4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenyl)-5-(4-acetophenyl)-1,4-pentadiene-3-one 161250-81-3, 1-(4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenyl)-5-(4-cyanophenyl)-1,4-pentadiene-3-one 161250-82-4, 4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenylacetylene 161250-83-5, 4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenylbuta-1,3-diyne 161250-84-6, 4-(1,1-Bis(4-trifluoroethoxyphenyl)ethyl)phenylhexa-

1,3,5-triyne 161250-85-7, 4-(1,1-Bis(4-trifluoroethenyloxyphenyl)ethyl)phenylocta-1,3,5,7-tetrayne  
 161250-86-8, 4-(1,1-Bis(4-trifluoroethenyloxyphenyl)ethyl)phenyl-  
 1,3,5,7,9-pentayne 161250-87-9, 6-(4-(1,1-Bis(4-trifluoroethenyloxyphenyl)ethyl)phenoxy)**naphthoquinone**  
 161250-88-0, 6-(4-(1,1-Bis(4-trifluoroethenyloxyphenyl)ethyl)phenoxy)coumarin 161250-89-1, 7-(4-(1,1-Bis(4-trifluoroethenyloxyphenyl)ethyl)phenoxy)coumarin 161250-90-4,  
 2-(4-(1,1-Bis(trifluoroethenyloxyphenyl)ethyl)benzylidene)cyclohexanone 161250-91-5, 2-(4-(4-(1,1-Bis(trifluoroethenyloxyphenyl)ethyl)phenoxy)benzylidene)cyclohexanone 161250-92-6,  
 1-Acroyloxy-2-(4-trifluoroethenyloxy)benzoyloxyethane 161250-93-7,  
 1-Methacroyloxy-2-(4-trifluoroethenyloxy)benzoyloxyethane  
 161250-94-8, N-(4-Trifluoroethenyloxyphenyl)acrylamide  
 161250-95-9, N-(4-Trifluoroethenyloxyphenyl)methacrylamide  
 161250-96-0, 4-Trifluoroethenyloxyphenylacrylate 161250-97-1,  
 4-Trifluoroethenyloxyphenylmethacrylate 161250-98-2,  
 N-(4-Trifluoroethenyloxyphenyl)maleimide 161250-99-3,  
 N-(4-Trifluoroethenyloxybenzoyl)maleimide 161251-00-9  
 161251-01-0 161251-02-1 161251-03-2 161251-04-3 161251-05-4  
 161251-06-5 161251-07-6 161251-08-7 161251-09-8 161251-10-1  
 161251-11-2 161251-12-3 161251-13-4 161251-14-5 161251-15-6  
 161251-16-7 161251-17-8 161251-18-9 161251-19-0 161251-20-3  
 161251-21-4 161251-22-5 161251-23-6 161251-24-7 161251-25-8  
 161251-26-9 161251-27-0 161251-28-1 161251-29-2 161251-30-5  
 161251-31-6 161251-32-7 161251-33-8 161251-34-9 161251-35-0  
 161251-36-1 161251-37-2 161251-38-3 161251-39-4 161251-40-7  
 161251-41-8 161251-42-9 161251-43-0 161251-44-1 161251-45-2  
 161251-46-3 161251-47-4 161251-48-5 161251-49-6 161251-50-9  
 161251-51-0 161251-52-1 161251-53-2 161251-54-3,  
 1-(4-Fluorophenyl)-2-(4-trifluoroethenyloxyphenyl)-1-propene  
 161251-55-4, 2-(4-Fluorophenyl)-1-(4-trifluoroethenyloxyphenyl)-1-propene 161251-56-5, 1-(4-Cyanophenyl)-2-(4-trifluoroethenyloxyphenyl)-1-propene 161251-57-6,  
 2-(4-Cyanophenyl)-1-(4-trifluoroethenyloxyphenyl)-1-propene  
 161251-58-7, 2-(4-Acetylphenyl)-1-(4-trifluoroethenyloxyphenyl)-1-propene 161251-59-8, 4-Methoxy-4'-trifluoroethenyloxystilbene  
 161251-60-1, 4-Dimethylaminophenyl-4'-trifluoroethenyloxystilbene  
 161251-61-2, 4-Carboxyethylphenyl-4'-trifluoroethenyloxystilbene  
 161251-62-3, 4-Nitro-4'-trifluoroethenyloxystilbene 161251-63-4,  
 4-Chloro-4'-trifluoroethenyloxystilbene 161251-64-5,  
 4-Fluoro-4'-trifluoroethenyloxystilbene 161251-65-6,  
 4-Cyano-4'-trifluoroethenyloxystilbene 161251-66-7,  
 4-Acetyl-4'-trifluoroethenyloxystilbene 161251-67-8,  
 4-Trifluoromethyl-4'-trifluoroethenyloxystilbene 161251-68-9  
 161251-69-0 161251-70-3 161251-71-4 161251-72-5 161251-73-6  
 161251-74-7 161251-75-8 161251-76-9 161251-77-0 161251-78-1,  
 1,1-Bis(4-trifluoroethenyloxyphenyl)-1-(4-(5-(2-furanyl)-2,4-

pentadiene-1-onyl)phenyl)ethane 161251-79-2, 3,5-  
 Bis(trifluoroethoxy)-.beta.- (benzylidene)acetophenone  
 161251-80-5, 3,5-Bis(trifluoroethoxy)-.beta.- (4'-  
 methoxybenzylidene)acetophenone 161251-81-6, 3,5-  
 Bis(trifluoroethoxy)-.beta.- (4'-dimethylaminobenzylidene)acetoph-  
 enone 161251-82-7, 3,5-Bis(trifluoroethoxy)-.beta.- (4'-  
 cyanobenzylidene)acetophenone 161251-83-8, 3,5-  
 Bis(trifluoroethoxy)-.beta.- (4'-nitrobenzylidene)acetophenone  
 161251-84-9 161251-85-0 161251-86-1 161251-87-2 161251-88-3  
 161251-89-4 161251-90-7 161251-91-8 161251-92-9 161251-93-0  
 161251-94-1 161251-95-2 161251-96-3 161251-97-4,  
 2,7-Bis(3-phenyl-2-propene-1-onyl)-9,9-bis(4-  
 trifluoroethoxyphenyl)fluorene 161251-98-5 161251-99-6,  
 2,7-Bis(3-(2-methoxyphenyl)-2-propene-1-onyl)-9,9-bis(4-  
 trifluoroethoxyphenyl)fluorene 161252-00-2,  
 2,7-Bis(3-(4-dimethylaminophenyl)-2-propene-1-onyl)-9,9-bis(4-  
 trifluoroethoxyphenyl)fluorene 161252-01-3,  
 2,7-Bis(3-(4-cyanophenyl)-2-propene-1-onyl)-9,9-bis(4-  
 trifluoroethoxyphenyl)fluorene 161252-02-4,  
 2,7-Bis(3-(4-nitrophenyl)-2-propene-1-onyl)-9,9-bis(4-  
 trifluoroethoxyphenyl)fluorene 161252-03-5 161252-04-6  
 161252-05-7, 2-(5-(2-Methoxyphenyl)-2,4-pentadiene-1-onyl)-9,9-bis(4-  
 trifluoroethoxyphenyl)fluorene 161252-06-8 161252-07-9,  
 2,7-Bis(5-(4-cyanophenyl)-2,4-pentadiene-1-onyl)-9,9-bis(4-  
 trifluoroethoxyphenyl)fluorene 161252-08-0,  
 2,7-Bis(5-(4-nitrophenyl)-2,4-pentadiene-1-onyl)-9,9-bis(4-  
 trifluoroethoxyphenyl)fluorene 161252-09-1,  
 2,7-Bis(5-(2-dimethylaminophenyl)-2,4-pentadiene-1-onyl)-9,9-bis(4-  
 trifluoroethoxyphenyl)fluorene 161252-10-4 161252-11-5  
 161252-12-6 161252-13-7 161252-14-8 161252-15-9 161252-16-0  
 161252-17-1 161252-19-3 161252-20-6 161252-21-7 161252-22-8  
 (monomer for photodefinable polymer)

L70 ANSWER 5 OF 13 HCA COPYRIGHT 2005 ACS on STN

118:126497 Polyketomethine dyes and their use. Albert, Bernhard;  
 Kessel, Knut; Martin, Hans Dieter; Silber, Stefan (BASF A.-G.,  
 Germany). Ger. Offen. DE 4111159 A1 19921008, 19 pp. (German).  
 CODEN: GWXXBX. APPLICATION: DE 1991-4111159 19910406.

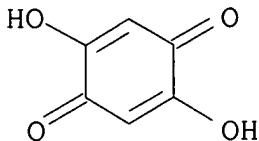
AB The title dyes, R1(:CHCH:)mA(:CHCH:)nR2R3 (A = 2,4,5-  
 cyclopentanetrione-1,3-diylidene, 2,3,5,6-cyclohexanetetrone-1,4-  
 diylidene; R1 = O, S, and/or N heterocycle contg. 1 or 2  
 heteroatoms; R2, R3 = C1-10-alkyl or R2R3 = R1; m, n = 0-3), are  
 obtained for use as pharmaceuticals, sensitizers for electrophotog.  
 or photopolymn., singlet O generators, or in optical recording  
 media. Thus, 5 mmol 3-methyl-2-(methylthio)benzothiazolium iodide  
 was condensed 30 min with 2.5 mol 1,2,4-cyclopentanetrione in  
 refluxing EtOH to give 42% 3,5-bis(3-methyl-2-benzothiazolinylidene)-  
 1,2,4-cyclopentanetrione.

IT **615-94-1**

(condensation of, with active Me or methylene compds.)

RN 615-94-1 HCA

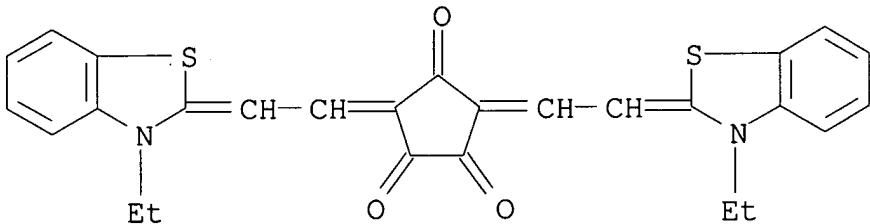
CN 2,5-Cyclohexadiene-1,4-dione, 2,5-dihydroxy- (9CI) (CA INDEX NAME)

IT **146228-70-8P 146228-71-9P 146228-72-0P****146228-73-1P 146228-74-2P 146228-75-3P****146228-76-4P 146228-77-5P**

(prepn. and optical adsorption of)

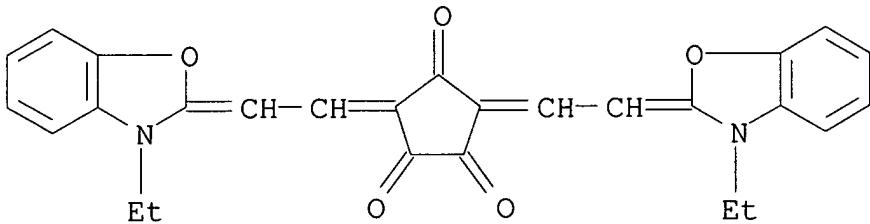
RN 146228-70-8 HCA

CN 1,2,4-Cyclopentanetrione, 3,5-bis[(3-ethyl-2(3H)-benzothiazolylidene)ethylidene]- (9CI) (CA INDEX NAME)



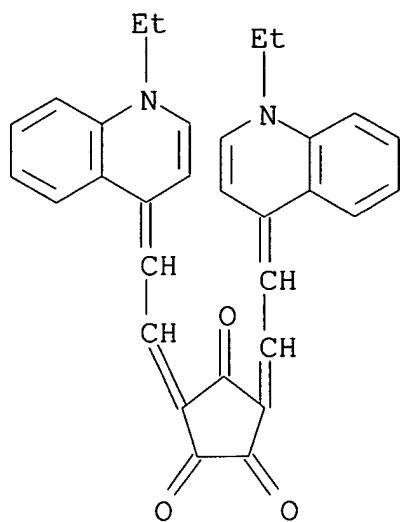
RN 146228-71-9 HCA

CN 1,2,4-Cyclopentanetrione, 3,5-bis[(3-ethyl-2(3H)-benzoxazolylidene)ethylidene]- (9CI) (CA INDEX NAME)

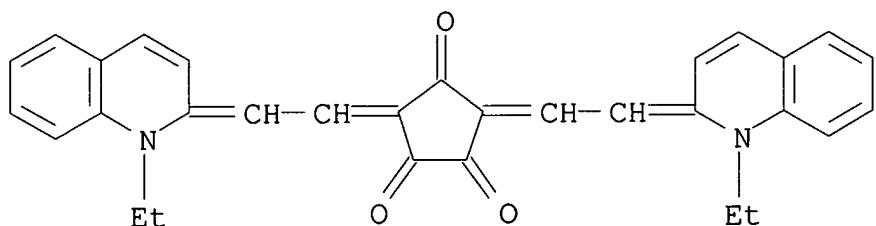


RN 146228-72-0 HCA

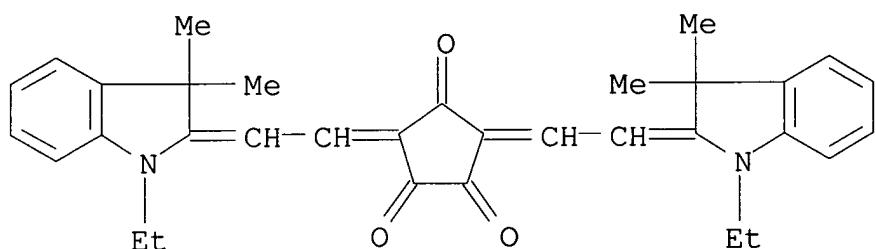
CN 1,2,4-Cyclopentanetrione, 3,5-bis[(1-ethyl-4(1H)-quinolinylidene)ethylidene]- (9CI) (CA INDEX NAME)



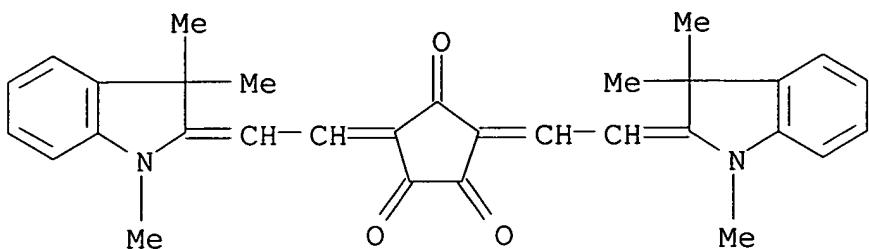
RN 146228-73-1 HCA  
 CN 1,2,4-Cyclopentanetrione, 3,5-bis[(1-ethyl-2(1H)-quinolinylidene)ethylidene]- (9CI) (CA INDEX NAME)



RN 146228-74-2 HCA  
 CN 1,2,4-Cyclopentanetrione, 3,5-bis[(1-ethyl-1,3-dihydro-3,3-dimethyl-2H-indol-2-ylidene)ethylidene]- (9CI) (CA INDEX NAME)

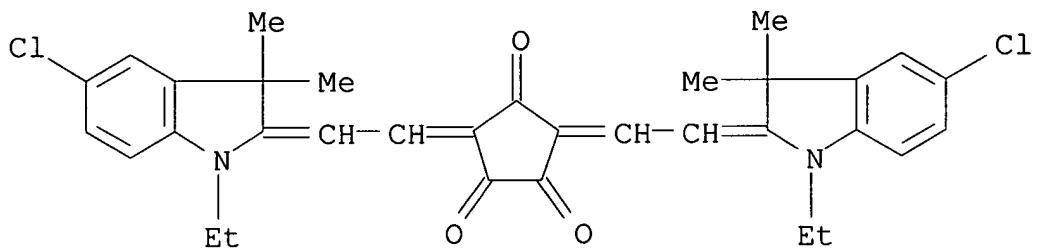


RN 146228-75-3 HCA  
 CN 1,2,4-Cyclopentanetrione, 3,5-bis[(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)ethylidene]- (9CI) (CA INDEX NAME)



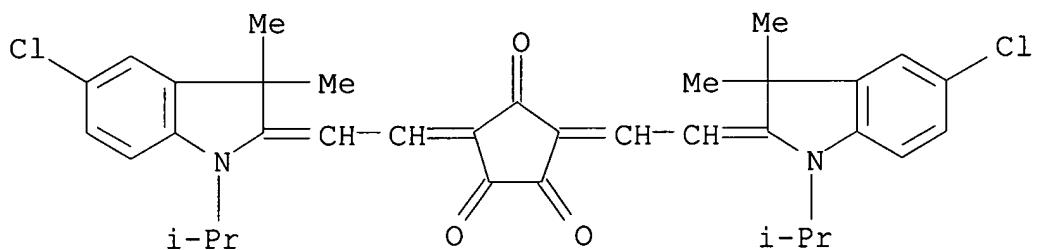
RN 146228-76-4 HCA

CN 1,2,4-Cyclopentanetrione, 3,5-bis[(5-chloro-1-ethyl-1,3-dihydro-3,3-dimethyl-2H-indol-2-ylidene)ethylidene]- (9CI) (CA INDEX NAME)



RN 146228-77-5 HCA

CN 1,2,4-Cyclopentanetrione, 3,5-bis[[5-chloro-1,3-dihydro-3,3-dimethyl-1-(1-methylethyl)-2H-indol-2-ylidene]ethylidene]- (9CI) (CA INDEX NAME)



IC ICM C09B023-01

ICS A61K031-44; A61K031-40; A61K031-425; A61K031-645; C01B013-02; G11B007-24; G03G005-09; C08F002-50

ICA C09D007-12

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 63, 74

IT **615-94-1** 4539-56-4 15849-14-6, 1,2,4-Cyclopentanetrione 146229-02-9 146229-03-0

(condensation of, with active Me or methylene compds.)

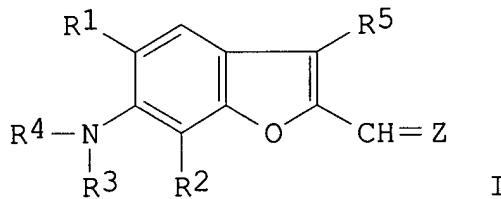
IT 146228-65-1P 146228-66-2P 146228-67-3P 146228-68-4P 146228-69-5P **146228-70-8P 146228-71-9P**

**146228-72-0P 146228-73-1P 146228-74-2P**  
**146228-75-3P 146228-76-4P 146228-77-5P**  
 146228-78-6P 146228-79-7P 146228-80-0P 146228-81-1P  
 146228-82-2P 146228-83-3P 146228-84-4P 146228-85-5P  
 146228-86-6P 146228-87-7P 146228-88-8P 146228-89-9P  
 146228-90-2P 146228-91-3P 146228-92-4P 146228-93-5P  
 146228-94-6P 146228-95-7P 146228-96-8P 146228-97-9P  
 146228-98-0P 146228-99-1P 146229-00-7P 146425-46-9P  
 (prepn. and optical adsorption of)

L70 ANSWER 6 OF 13 HCA COPYRIGHT 2005 ACS on STN

113:42468 Benzofuran dyes having long wavelength absorption. Chen, Chin Hsin; Fox, John Leonard (Eastman Kodak Co., USA). Eur. Pat. Appl. EP 341567 A2 19891115, 18 pp. DESIGNATED STATES: R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1989-108015 19890503. PRIORITY: US 1988-191948 19880509.

GI



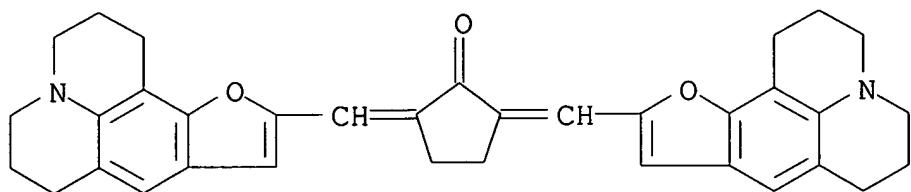
AB The title compds. I (R1, R2, R5 = H, aryl, alkyl; R3, R4 = alkyl; Z = electron-withdrawing group;  $\geq$  1 of R1R4, R2R3, and R3R4 completes a 5- or 6-membered ring), useful as fluorescent dyes or as free-radical polymn. coininitiators, are prep'd. Thus, 9-formyl-2,3,6,7-tetrahydro-1H,5H-benzo[ij]furano[3,2-g]quinolizine was condensed with 3-cyano-4-phenyl-2-furanone, producing 3-cyano-4-phenyl-5-(2,3,6,7-tetrahydro-1H,5H-benzo[ij]furano[3,2-g]quinolizin-9-ylmethylene)-2-furanone,  $\lambda_{max}$  (CH<sub>2</sub>Cl<sub>2</sub>) 655 nm ( $\epsilon$  = 52  $\times$  103).

IT **126174-24-1P**

(manuf. of, as fluorescent dye and polymn. initiator)

RN 126174-24-1 HCA

CN Cyclopentanone, 2,5-bis[(2,3,6,7-tetrahydro-1H,5H-benzofuro[5,6,7-ij]quinolizin-10-yl)methylene]- (9CI) (CA INDEX NAME)

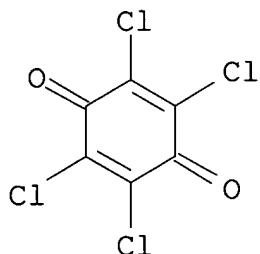


IT 118-75-2, reactions

(oxidn. by, of (diethylamino)(hydroxymethyl)benzofuran)

BN 118-75-2 HCA

RN 110-75-2 (CA INDEX)  
CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetrachloro- (9CI) (CA INDEX  
NAME)



IC ICM C09B023-00

CC 41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 35

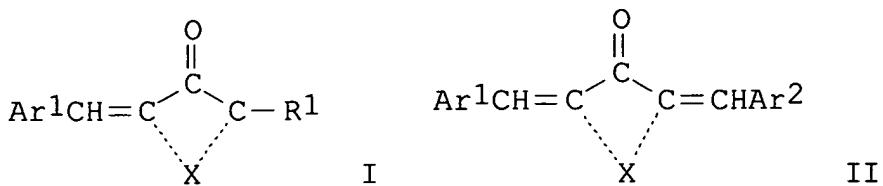
IT 126174-14-9P 126174-15-0P 126174-16-1P 126174-21-8P  
126174-23-0P **126174-24-1P** 126174-25-2P 126174-26-3P  
126591-49-9P 126845-60-1P 128320-60-5P

IT 118-75-2, reactions  
(manuf. of, as fluorescent dye and polymn. initiator)  
(acid-catalyzed formation of hydroxymethyl)benzofuran

170 ANSWER 7 OF 13 HCA COPYRIGHT 2005 ACS on STN

112:100740 Photopolymerization initiator and thermal-transfer recording medium. Okuma, Norio (Canon K. K., Japan; Sanyo Chemical Industries Ltd.). Jpn. Kokai Tokkyo Koho JP 01174503 A2 19890711 Heisei, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-335732 19871228.

GI



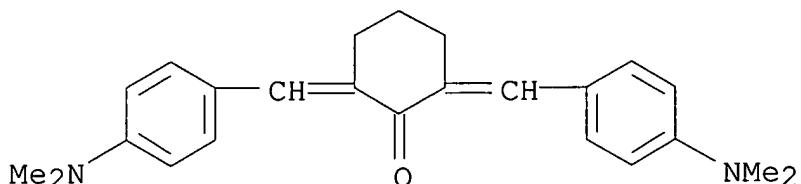
AB The title photopolymer. initiator is composed of .alpha.-diketone deriv., and I or II [Ar1, Ar2 arom. ring, heterocyclic ring; R1 = H, C1-10 alkyl, alkenyl, alkoxy, or alkylthio, C6-12 aryl, aryloxy, or heterocyclic ring with no. of C and non-C atoms to be 5-15; X = non-metallic atom for forming a ring]. The thermal-transfer recording layer is composed of the photoinitiator, and monomer, oligomer or polymer with unsatd. double bond or these mixt. An image-forming material my be encapsulated. The initiator is esp. useful in one-shot color recording.

IT 18977-38-3 21889-12-3 38394-53-5  
125407-22-9 125407-24-1 125407-25-2

(photopolymer. initiator compn. contg.  $\alpha$ -diketone and)

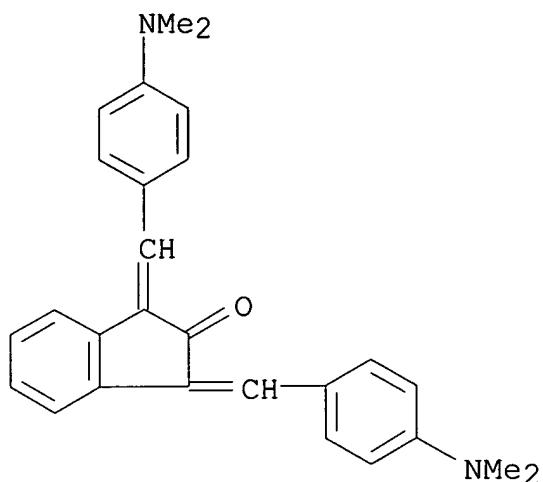
RN 18977-38-3 HCA

CN Cyclohexanone, 2,6-bis[(4-(dimethylamino)phenyl)methylene]- (9CI)  
(CA INDEX NAME)



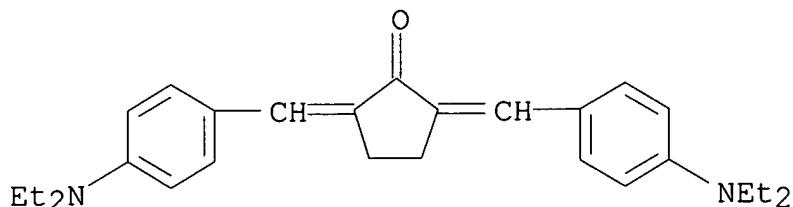
RN 21889-12-3 HCA

CN 2H-Inden-2-one, 1,3-bis[[4-(dimethylamino)phenyl]methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)



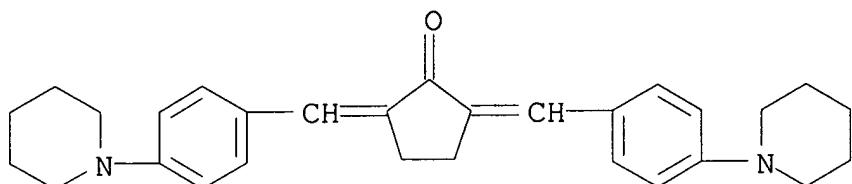
RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



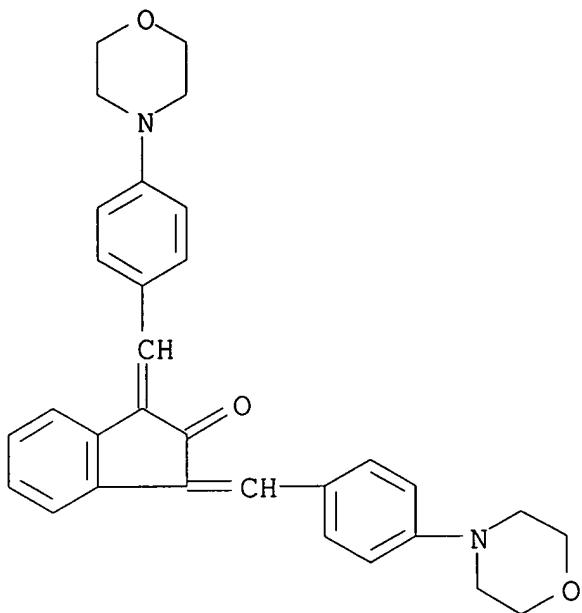
RN 125407-22-9 HCA

CN Cyclopentanone, 2,5-bis[[4-(1-piperidinyl)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



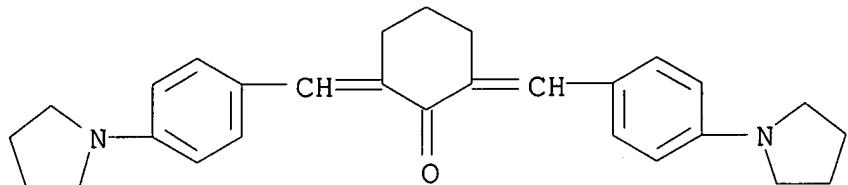
RN 125407-24-1 HCA

CN 2H-Inden-2-one, 1,3-dihydro-1,3-bis[[4-(4-morpholinyl)phenyl]methylene]- (9CI) (CA INDEX NAME)



RN 125407-25-2 HCA

CN Cyclohexanone, 2,6-bis[[4-(1-pyrrolidinyl)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC ICM C08F002-50

ICS G03C001-00; G03C001-68

CC 42-2 (Coatings, Inks, and Related Products)

Section cross-reference(s): 35

IT 10373-78-1, **Camphorquinone** 108586-95-4

(photopolymn. initiator compn. contg. cyclic ketone and)

IT 5447-53-0 6275-32-7 **18977-38-3 21889-12-3**

**38394-53-5** 49629-37-0 87384-01-8 125407-04-7

125407-20-7 125407-21-8 **125407-22-9** 125407-23-0

**125407-24-1 125407-25-2**

(photopolymn. initiator compn. contg. .alpha.-diketone and)

L70 ANSWER 8 OF 13 HCA COPYRIGHT 2005 ACS on STN

103:62585 Photosensitive resin composition. (Nippon Foil Mfg. Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 60028648 A2 19850213 Showa, 8 pp.

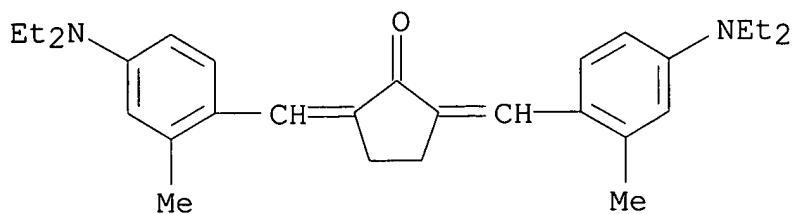
AB (Japanese). CODEN: JKXXAF. APPLICATION: JP 1983-137954 19830726. A photosensitive resin compn. contains a chelating agent 10-4-5% of the total solid matter. The resin compn. is used for photolithog., photorelief printing, and as photoresist with esp. high storage stability. Thus, a mixt. contg. Me methacrylate 45, styrene 10, acrylic acid 40, poly(butadiene glycol) (G-1000) 5, and azobisisobutyronitrile 2 g was dropwise added to butyl Cellosolve 400 g at 80.degree.. After copolymn., p-diazodiphenylamine-HCHO condensate esterified by a benzenensulfonic acid deriv. 60, Oil Blue 603 0.05, EDTA 1.6, and butyl Cellosolve 240 g were successively added, stirred for 3 h, and filtered. A photosensitive resin compn. was prep'd. by mixing the above filtrate 250, iso-PrOH 1500, xylene 200, EtOAc 200, diethylene glycol diacrylate 10, 1,2-benzanthraquinone 3.4, benzoin Me ether 0.1, and hydroquinone 0.1 g. The photosensitive plate prep'd. by coating the compn. was stored at 60.degree. and 90% relative humidity. Daily sampling of the material and development showed signs of deterioration (scum formation, loss of reproducibility, and defective ink reception) after 21 days storage. A control material without the chelating agent produced these defects after 5 days storage.

IT **38394-52-4**

(photoresist compn. contg.)

RN 38394-52-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)-2-methylphenyl]methylene]-(9CI) (CA INDEX NAME)



IC ICM G03C001-00

ICS C08K005-09; C08K005-16; G03F007-00

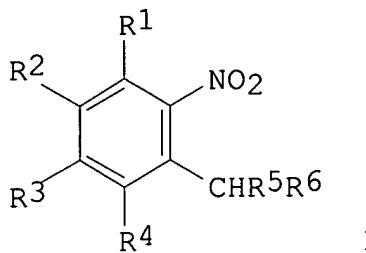
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 79-10-7, uses and miscellaneous 79-10-7D, polymers with hydroxy-terminated polybutadiene, Me methacrylate, and styrene 80-62-6D, polymers with acrylic acid, hydroxy-terminated polybutadiene, and styrene 100-42-5D, polymers with acrylic acid, hydroxy-terminated polybutadiene, and Me methacrylate 1680-21-3 15625-89-5 25085-99-8 25176-75-4 26589-39-9 **38394-52-4**  
97515-91-8

(photoresist compn. contg.)

L70 ANSWER 9 OF 13 HCA COPYRIGHT 2005 ACS on STN  
 95:178713 Photopolymerizable composition containing an O-nitroaromatic compound as photoinhibitor. Pazos, Jose F. (du Pont de Nemours, E. I., and Co., USA). Can. CA 1103084 19810616, 61 pp. (English).  
 CODEN: CAXXA4. APPLICATION: CA 1977-273994 19770315.

GI

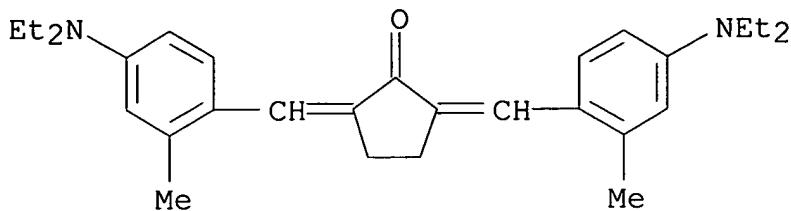


AB A photopolymerizable compn. and process for the prodn. of pos. images are described. In the process a photopolymerizable compn. contg. a normally nongaseous, ethylenically unsatd. compd. capable of addn. polymn. by free-radical initiated chain propagation, a nitroarom. compd. of formula I (R1-R4 = H, OH, halogen, NO<sub>2</sub>, CN, C<sub>1</sub>-18 alkyl, C<sub>1</sub>-18 alkoxy, aryl, PhCH<sub>2</sub>, halophenyl, polyether radical, dialkylamino, thioalkyl, thioaryl, or any 2 of R1-R4 together form a benzene ring and 1 of R1-R4 is OH or NO<sub>2</sub>; R5 = H, C<sub>1</sub>-18 alkyl, halogen, Ph, C<sub>1</sub>-18 alkoxy; R6 = H, OH, C<sub>1</sub>-18 alkyl, Ph, C<sub>1</sub>-18 alkoxy; or R5R6 together as O, CH<sub>6</sub>, NPh, or similar devalent group), and an org., radiation-sensitive, free radical-generating system activatable by actinic radiation that does not significantly rearrange the nitroarom. compd. to an inhibitor of free radical polymn. is coated on a suitable support, imagewise exposed through a transparency to radiation, .gt;20% of which has a wavelength of .apprx.200 to .apprx.380 nm to rearrange at least some of the nitroarom. compd. to a polymn.-inhibiting nitroso arom. compd., then exposed to radiation with a wavelength of >380 nm to produce a pos polymer image, and then developed by an appropriate means to give a pos. polymeric image. Thus, a typical photopolymerizable compn contained 1,1,1-trimethylolpropane triacrylate (contg. **hydroquinone** and/or **methylhydroquinone** 200 ppm) 3.5 mL, o-nitrobenzyl alc 0.153, and **phenanthrenequinone** 0.021 g.

IT **38394-52-4**  
 (photopolymerizable photoimaging compns. contg. nitro compd. photoinhibitor and, for pos. image prodn.)

RN 38394-52-4 HCA  
 Cyclopentanone, 2,5-bis[[4-(diethylamino)-2-methylphenyl]methylene]-

(9CI) (CA INDEX NAME)



IC G03C001-70; G03C005-24

CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)

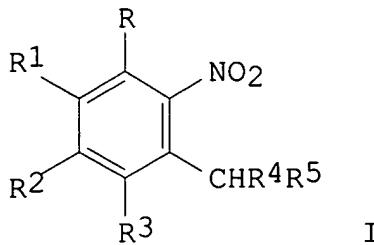
IT 84-11-7 95-71-6 106-10-5 109-16-0 111-21-7 117-81-7  
 123-31-9, uses and miscellaneous 128-37-0, uses and miscellaneous  
 149-30-4 150-76-5 603-48-5 1241-94-7 1680-21-3 1707-68-2  
 3524-68-3 7440-44-0, uses and miscellaneous 9011-14-7  
 15625-89-5 24620-40-4 25086-15-1 25135-39-1 25176-75-4  
 29777-36-4 34122-40-2 **38394-52-4** 39279-99-7  
 53802-03-2 58206-31-8

(photopolymerizable photoimaging compns. contg. nitro compd.  
 photoinhibitor and, for pos. image prodn.)

L70 ANSWER 10 OF 13 HCA COPYRIGHT 2005 ACS on STN

94:93573 Photopolymerizable composition containing an o-nitroaromatic compound as photoinhibitor. (du Pont de Nemours, E. I., and Co., USA). Belg. BE 881232 19800718, 12 pp. Addn. to Belg. 852,517. (French). CODEN: BEXXAL. APPLICATION: BE 1980-199028 19800118.

GI



AB o-Nitro arom. compds. (I; R-R3 = H, OH, halogen, NO2, CN, C1-18 alkyl, C1-18 alkoxy, C6-18 aryl, PhCH2, halophenyl, a polyether group, dialkylamino, alkylthio, arylthio; R4 = H, C1-18 alkyl, halogen, Ph, C1-18 alkoxy, and the like; R5 = H, OH, C1-18 alkyl, Ph, alkoxy, and the like) are described for use as photoinhibitors in photopolymerizable compns. for the prodn. of lithog. plates. Thus, a soln. of methacrylic acid-Me methacrylate copolymer 60.86,

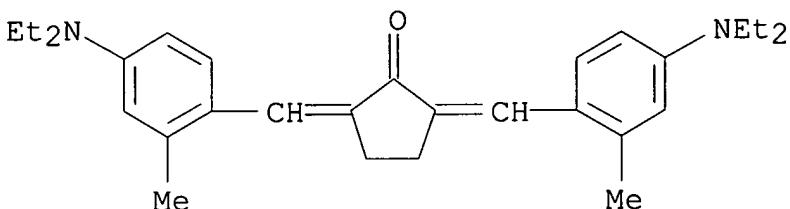
trimethylolpropane triacrylate (contg. 235-265 ppm **hydroquinone**) 21.31, triethylene glycol dicaproate and triethylene glycol dicaprylate 6.75, 2-(o-chlorophenyl)-4,5-diphenylimidazolyl dimer 6.18, 1-(2'-nitro-4',5'-dimethoxyphenyl)-1-(4-methoxyphenoxy)ethane 2.81, 2,5-bis(4-diethylamino-2-methylbenzylidene)cyclopentanone 0.90, C.I. Solvent Red 109 0.95, leuco crystal violet 0.19, and 1,4,4-trimethyl-2,3-diazabicyclo(3.2.2.)non-2-ene N,N-dioxide 0.5 part in 2-ethoxyethanol was whirl coated on an anodized Al support, dried, overcoated with an aq. poly(vinyl alc.) soln. contg. a matting agent, exposed and developed to give a high-quality lithog. plate.

IT **38394-52-4**

(photopolymerizable compns. contg. nitroarom. compd. photoinhibitor and, for printing plate fabrication and photoresists)

RN 38394-52-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)-2-methylphenyl]methylene]-(9CI) (CA INDEX NAME)



IC G03C; C08L; C08F

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

Section cross-reference(s): 25

IT 106-10-5 603-48-5 1707-68-2 15625-89-5 25086-15-1

34122-40-2 **38394-52-4** 53802-03-2

(photopolymerizable compns. contg. nitroarom. compd. photoinhibitor and, for printing plate fabrication and photoresists)

L70 ANSWER 11 OF 13 HCA COPYRIGHT 2005 ACS on STN

80:114843 Photopolymerizable compositions containing cyclic cis-.alpha.-dicarbonyl compounds and selected sensitizers. Chang, Catherine T. (du Pont de Nemours, E. I., and Co.). U.S. US 3756827 19730904, 7 pp. (English). CODEN: USXXAM. APPLICATION: US 1972-220694 19720125.

AB Photopolymerizable compns. of high photospeed consists of an ethylenically unsatd. monomer capable of photoinitiated addn. polymn. and photoinitiator combination of a cyclic cis-.alpha.-dicarbonyl compd., such as 2,3-norbornadione (I), 2,2,5,5-tetramethyltetrahydro-3,4-furandione, indole-2,3-dione, and

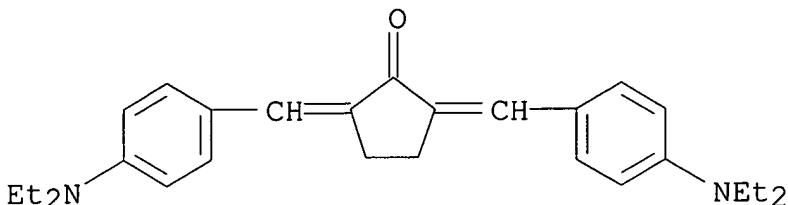
a radiation-absorbing compd. having a max. absorption at <520 nm capable of sensitizing the polymg. action of the above dicarbonyl compd., such as Michler's ketone (II), 3,3'-diethylthiacyanine p-toluenesulfonate, 4-(dimethylamino)**benzoquinone**, Acridine Orange, and optionally a free-radical producing H or electron donor compd. and a polymeric binder. Thus, a soln. contg. cellulose acetate 2.7, cellulose acetate butyrate 4.2, trimethylolpropane triacrylate 13.5, Me<sub>2</sub>CO 116, I 0.047, and II 0.047 g was coated on a poly(ethylene terephthalate) (III) support at 0.002 in. wet thickness, dried, laminated with a III cover sheet, exposed using a 1000-W W-lamp at 44 in. through an Eastman Kodak M-type no. 5 step tablet, and developed by dusting with Jungle Black to give an equiv. exposure time of 2 vs. .apprx.400 for a II-free control.

IT **38394-53-5 52560-25-5**

(photosensitizer, for trimethylolpropane triacrylate photopolymerizable compns.)

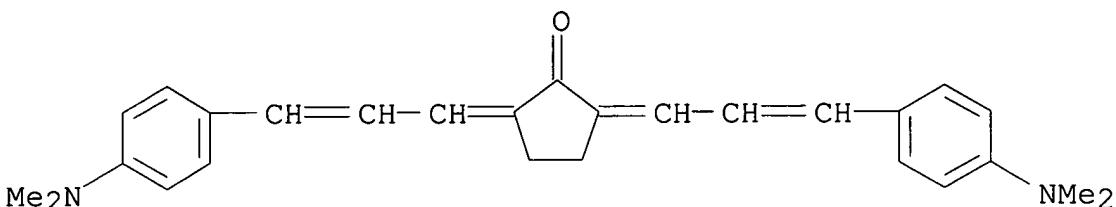
RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



RN 52560-25-5 HCA

CN Cyclopentanone, 2,5-bis[3-[4-(dimethylamino)phenyl]-2-propenylidene]- (9CI) (CA INDEX NAME)



IC G03C

INCL 096086000P

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT 65-61-2 90-93-7 90-94-8 91-44-1 92-99-9 100-10-7  
102-71-6, uses and miscellaneous 103-01-5 530-44-9 603-35-0  
1197-19-9 1628-58-6 2124-31-4 2465-27-2 6673-14-9

17087-90-0 19132-98-0 33458-29-6 35128-95-1 **38394-53-5**52439-99-3 **52560-25-5**(photosensitizer, for trimethylolpropane triacrylate  
photopolymerizable compns.)

L70 ANSWER 12 OF 13 HCA COPYRIGHT 2005 ACS on STN

73:50738 Dry process proof sheet. Druker, Leonard J.; Sachi, Leonard W. (Minnesota Mining and Manufacturing Co.). U.S. US 3515559 19700602, 2 pp. (English). CODEN: USXXAM. APPLICATION: US 1966-583432 19660930.

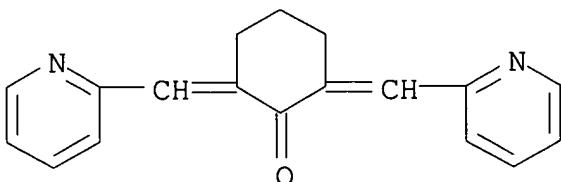
AB A photosensitive coating that is useful for proofing reproduction of pos. or neg. films or plates, and that may be handled in subdued light, is processed by exposure to uv radiation, followed by heat development. The coating contains a heat-developable Ag salt and a stabilizer, such as 2,6-bis(2-pyridylmethylene)cyclohexanone (I), 2,6-dicinnamylidenecyclohexanone (II), 2,6-bis[3(or 4)-pyridylmethylene]cyclohexanone, or (2-pyrid-2,5-bispyridylmethylene)cyclopentanone. I and II may be prep'd. by condensation of the corresponding aldehydes with cyclohexanone at 50-55.degree. in anhyd. EtOH in the presence of a basic catalyst. Crystals ppt. upon cooling. E.g., a mixt. contg. poly(vinyl butyral) 7.6, ZnO 15.5, Ag half soap (obtained by pptn. acidic AgNO<sub>3</sub> and the aq. soln. of the Na salt of behenic acid) 8.9, toluene 23.5, acetone 44.5, and I 0.03 part, is uniformly blended in a ball mill, I being added during the final milling period, and the mixt. coated onto supercalendered white paper at a dry wt. of 1.4 g/ft<sup>2</sup>. A coating contg. poly(vinylpyrrolidone) 4, **hydroquinone** 6, NH<sub>4</sub>Br 0.06, succinic acid 0.05, and MeOH 89.9 parts, is uniformly applied over the previous coating at a dry wt. of 0.2 g/ft<sup>2</sup>. This sheet is contact-exposed through a photographic neg. by using a 140-A arc lamp at 4 ft for 1 min. The uncoated side is then contacted with a platen, held at 195.degree.F, for 10 sec to yield a sharp and clear pos. print of the photographic neg.

IT **29053-73-4**

(photographic stabilizer, for heat developable proof papers)

RN 29053-73-4 HCA

CN Cyclohexanone, 2,6-bis(2-pyridinylmethylene)- (9CI) (CA INDEX NAME)



IC G03C  
INCL 096109000

CC 74 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
 IT 29053-73-4  
 (photographic stabilizer, for heat developable proof papers)

L70 ANSWER 13 OF 13 HCA COPYRIGHT 2005 ACS on STN  
 50:69236 Original Reference No. 50:12890d-i,12891a-i,12892a The dipole moments, spectra, and structure of some new 2-phenyl-, 2-benzyl-, 2-(p-halobenzylidene)- and 2,6-bis(p-halobenzylidene)cyclohexanones. Huitric, Alain C.; Kumler, W. D. (Univ. of California, San Francisco). Journal of the American Chemical Society, 78, 614-22 (Unavailable) 1956. CODEN: JACSAT. ISSN: 0002-7863. OTHER SOURCES: CASREACT 50:69236.

AB p-BrC<sub>6</sub>H<sub>4</sub>CHO (37.5 g.) and 12.7 g. MeNO<sub>2</sub> in 90 cc. MeOH treated dropwise with stirring at 10-15.degree. with 8.73 g. NaOH (25 cc. ice cold aq. soln.), the mixt. dild. with 20 cc. MeOH, stirred 15 min., treated with 150 cc. ice-water mixt., and added slowly with stirring to 50 cc. concd. HCl and 75 cc. H<sub>2</sub>O, and the ppt. washed with H<sub>2</sub>O gave 23 g. p-BrC<sub>6</sub>H<sub>4</sub>CH:CHNO<sub>2</sub>, yellow crystals, m. 150.1-51.degree. (from 95% EtOH); method A. Similarly were prep'd. the following p-substituted .beta.-nitrostyrenes (I) (p-substituent, % yield, and m.p. given): p-Cl, 52, 113-14.degree.; p-O<sub>2</sub>N, 58, 206-7.degree. (from 95% EtOH-dioxane); p-I (II), 40, 188.5-9.5.degree.. p-IC<sub>6</sub>H<sub>4</sub>CHO (20 g.), 10.4 g. MeNO<sub>2</sub>, and 8 g. NH<sub>4</sub>OAc refluxed 2 hrs. in 80 cc. glacial AcOH, and the hot mixt. poured into 500 cc. ice-H<sub>2</sub>O mixt. yielded 14.3 g. II, yellow crystals, m. 188.5-9.5.degree. (from EtOH-dioxane); method B. Similarly was prep'd. 41% p-iso-PrC<sub>6</sub>H<sub>4</sub>CH:CHNO<sub>2</sub>, m. 37-8.degree. (from iso-PrOH and petr. ether). p-Et<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CHO (17.7 g.) and 18.3 g. MeNO<sub>2</sub> heated 5 min. on the water bath, treated with 0.5 g. AmNH<sub>2</sub>, heated 1 min., allowed to stand overnight, and cooled gave 6 g. p-Et<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH:CHNO<sub>2</sub> (III), bright red crystals, m. 96-7.degree. (from 95% EtOH). p-HOC<sub>6</sub>H<sub>4</sub>CH:CHNO<sub>2</sub> (30 g.) and 90 g. AcCl kept 7 hrs. at 45.degree., and the excess AcCl removed in vacuo gave 24 g. p-AcOC<sub>6</sub>H<sub>4</sub>CH:CHNO<sub>2</sub>, light yellow crystals, m. 160-1.degree. (from 95% EtOH). The appropriate I heated with (CH<sub>2</sub>:CH)<sub>2</sub> 75-90 hrs. at 100.degree. in a sealed reactor with PhMe as the solvent, the solvent removed under a stream of N or air at room temp., and the residue recrystd. gave the corresponding 4-nitro-5-(p-substituted phenyl)cyclohexene (IV) (p-substituent, % yield, and m.p. given): p-Cl, 89, 88.5-9.5.degree. (from EtOH, iso-PrOH); p-Br, 96, 110.6-11.5.degree. (from EtOH, iso-PrOH); p-I, 71, 145-6.degree. (from EtOH, iso-PrOH); p-NO<sub>2</sub>, 91, 138-9.degree. (from EtOH); p-AcO, 87 (in dioxane), 113.5-14.5.degree. (from EtOH, iso-PrOH); p-iso-Pr, 90, 75.0-5.5.degree. (from iso-PrOH, petr. ether). III (27 g.), 25 g. CCl<sub>3</sub>CO<sub>2</sub>H, traces of **hydroquinone**, 35 cc. dioxane, and excess (CH<sub>2</sub>:CH)<sub>2</sub> heated 82 hrs. at 100.degree. in a bomb, the dioxane removed in vacuo with N, the residue washed with 10% aq. Na<sub>2</sub>CO<sub>3</sub> and 5% HCl to leave 13.5 g. unreacted III, the acid washings

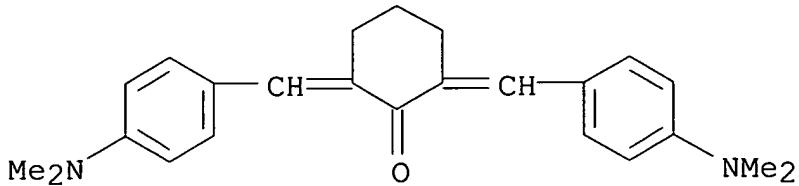
neutralized with  $\text{Na}_2\text{CO}_3$ , the ppt. extd. with hot petr. ether, and the ext. evapd. gave 2.5 g. 4-nitro-5-(p-dimethylaminophenyl)cyclohexene, orange crystals, m. 133-4.degree. (from iso-PrOH). The same reaction performed in dioxane with a slight excess of  $\text{HCl}$  gave a grayish black material, m. above 250.degree.; at room temp. in glacial  $\text{AcOH}$  during 1 week only unchanged III was recovered. The IV were converted by the method of Wildman and Wildman (C.A. 47, 1620a) to the corresponding 6-(p-substituted phenyl)-3-cyclohexen-1-ones (V) (p-substituent, % yield of crude V, m.p. of purified V, and m.p. of the 2,4-dinitrophenylhydrazone given): p-Cl, 38.5, 64-4.5.degree., 144.5-5.5.degree.; p-Br, 33, 63.5-4.5.degree., 149-50.degree.; p-I, 73, 62-3.degree., -; p-NO<sub>2</sub> (VI), 53, 112.5-13.5.degree., 174.5-75.degree.; p-OH, 55, 126-7.degree., 214.5-15.5.degree.; p-iso-Pr, -, 66.5-7.5.degree., -. The V hydrogenated catalytically at room temp. over Raney Ni W-2 or 10% Pd-C gave the corresponding 2-(p-substituted phenyl)cyclohexanones (p-substituent, m.p. and catalyst given): p-Cl (VII), 77.5-8.5.degree. (from EtOH-petr. ether), Ni; p-Br (VIII), 84-5.degree. (from EtOH-petr. ether), Ni; p-iso-Pr (IX), 70.0-70.5.degree. (from aq. iso-PrOH), Ni (Pd); p-OH (X), 168.5-70.degree. (from 50% aq. EtOH), Ni. VI (2.5 g.) in 200 cc. 95% EtOH contg. 2.5 cc. concd.  $\text{HCl}$  hydrogenated 6 min. at 10 lb. pressure over 200 mg. 10% Pd-C, filtered, treated with 5 cc. concd.  $\text{HCl}$ , concd. to about 30 cc., dild. with 150 cc. dry  $\text{Et}_2\text{O}$ , and refrigerated overnight gave 2.4 g. 2-(p-aminophenyl)cyclohexanone (XI)  $\text{HCl}$  salt. XI. $\text{HCl}$  (1.7 g.) in 4 cc.  $\text{H}_2\text{O}$  and 1.5 cc. concd.  $\text{H}_2\text{SO}_4$  cooled to 0.degree., treated with 4 g. crushed ice, diazotized at 10.degree. with 0.65 g.  $\text{NaNO}_2$  in 1.6 cc.  $\text{H}_2\text{O}$ , the mixt. kept 10 min. in ice, treated with a small amt. of urea, and added dropwise to 100 cc. boiling  $\text{N H}_2\text{SO}_4$ , and the mixt. cooled deposited 1.2 g. X, m. 168.5-70.degree. (from 50% aq. EtOH). XI. $\text{HCl}$  (1.7 g.) in 4 cc.  $\text{H}_2\text{O}$  and 5 cc. concd.  $\text{HCl}$  treated dropwise at 0.degree. with 0.54 g.  $\text{NaNO}_2$  in 2 cc.  $\text{H}_2\text{O}$ , the mixt. treated dropwise with stirring and cooling with 1.41 g. KI in 8 cc.  $\text{H}_2\text{O}$  at 5.degree., the mixt. kept 1.5 hrs. in ice, warmed to room temp., and extd. with  $\text{CHCl}_3$ , the  $\text{CHCl}_3$  ext. worked up, the dark oily residue extd. with hot ligroine, and the ext. evapd. gave 1.2 g. 2-(p-iodophenyl)cyclohexanone, m. 96-7.degree. (from aq. EtOH). o-MeC<sub>6</sub>H<sub>4</sub>MgBr from 81 g. o-MeC<sub>6</sub>H<sub>4</sub>Br, 11.9 g. Mg, and 170 cc. dry  $\text{Et}_2\text{O}$  (the reaction was started with 4 drops BuBr) treated with 47.5 g. 2-chlorocyclohexanone (XII) in 130 cc. dry  $\text{Et}_2\text{O}$ , the mixt. dild. with 175 cc. dry  $\text{C}_6\text{H}_6$ , the  $\text{Et}_2\text{O}$  removed, the residue refluxed 7 hrs., cooled, poured into 300 cc. ice cold water, and acidified with 10%  $\text{H}_2\text{SO}_4$ , the aq. layer extd. with  $\text{C}_6\text{H}_6$ , and the combined  $\text{C}_6\text{H}_6$  solns. worked up gave 20 g. 2-(o-methylphenyl)cyclohexanone (XIII), colorless crystals, b1 115-30.degree., m. 55.5-6.5.degree. (from petr. ether); it gave treated with Girard T reagent the 2,4-dinitrophenylhydrazone, m. 143.5-4.5.degree.. m-BrC<sub>6</sub>H<sub>4</sub>Me and XII gave similarly 26% m-isomer

(XIV) of XIII, b1 125-34.degree., m. 37-8.degree. (purified with Girard T reagent); 2,4-dinitrophenylhydrazone, m. 132-3.degree.. In the same manner was prep'd. the p-isomer (XV) of XIII, colorless crystals, m. 50.5-1.5.degree.; 2,4-dinitrophenylhydrazone, m. 153.5-4.5.degree. (a certain amt. of p,p'-bitolyl, m. 121-2.degree., is also obtained), p-ClC<sub>6</sub>H<sub>4</sub>CHO (21 g.) and 7.35 g. cyclohexanone (XVI) in 150 cc. 50% EtOH contg. 0.9 g. NaOH refluxed 1.5 hrs. and cooled gave 23.6 g. 2,6-bis-(p-chlorobenzylidene)cyclohexanone (XVII), m. 147-8.degree. (from EtOH-C<sub>6</sub>H<sub>6</sub>). p-BrC<sub>6</sub>H<sub>4</sub>CHO (6.0 g.) and 1.59 g. XVI gave similarly 6.5 g. Br analog (XVIII) of XVII, bright yellow crystals, m. 166-7.degree. (from EtOH-C<sub>6</sub>H<sub>6</sub>). p-IC<sub>6</sub>H<sub>4</sub>CHO (10 g.) and 2.11 g. XVI in 200 cc. 50% EtOH refluxed 1.5 hrs. with 0.6 g. NaOH gave 9.5 g. p-I analog (XIX) of XVII, bright yellow crystals, m. 190.5-1.5.degree. (from EtOH-C<sub>6</sub>H<sub>6</sub>). XVII (5 g.) in 125 cc. C<sub>6</sub>H<sub>6</sub> and 25 cc. abs. EtOH hydrogenated 1 hr. at 30 lb. pressure over 1.5 g. Raney Ni gave 4 g. 2,6-bis(p-chlorobenzyl)cyclohexanone (XX), colorless needles, m. 146-7.degree. (from 95% EtOH and iso-PrOH). XVIII (3.5 g.) gave similarly the Br analog of XX, colorless crystals, m. 154-5.degree. (from 95% EtOH and MeOH). p-Me<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CHO (10 g.) and 3.2 g. XVI refluxed 3 hrs. in 150 cc. 50% EtOH with 3 g. NaOH yielded 7.5 g. Me<sub>2</sub>N analog (XXI) of XVII, dark orange crystals, m. 246-8.degree. (from PhMe). p-Me<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CHO (2 equivs.) refluxed with 1 equiv. XVI in 50% EtOH contg. 0.3% NaOH gave only 12.5% XXI; the filtrate dild. with H<sub>2</sub>O gave a considerable amt. lower melting material, m. 66-8.degree.. XXI (1 g.) in 150 cc. EtOH, 6 cc. concd. HCl, and 15 cc. H<sub>2</sub>O hydrogenated 15 min. at 20 lb. pressure and room temp. over 200 mg. 10% Pd-C, filtered, neutralized with 10% aq. Na<sub>2</sub>CO<sub>3</sub>, and dild. with an equal vol. H<sub>2</sub>O gave Me<sub>2</sub>N analog of XX, m. 136-7.degree.. 4-Nitro-5-(p-acetoxyphenyl)cyclohexene (1 g.) in 200 cc. abs. EtOH hydrogenated 15 min. at 30 lb. and room temp. over 0.1 g. 10% Pd-C, filtered, and evapd. in vacuo gave 2-(p-acetoxyphenyl)nitrocyclohexane, colorless crystals, m. 92-3.degree. (from 95% EtOH). The dipole moments were detd. for the following compds.: VII 4.25, VIII 4.11, IX 2.93, X 3.28, XV 2.91, XIV 2.99, XIII 3.31, 2-(p-chlorobenzyl)cyclohexanone 3.31, XX 3.03, 2-(p-chlorobenzylidene)cyclohexanone (XXII) 2.75, Br analog of XXII 2.89, iodo analog of XXII 2.76, XVII 2.23, XVIII 2.29, XIX 2.31. The ultraviolet absorption max. of all these compds. are tabulated.

IT **18977-38-3**, Cyclohexanone, 2,6-bis(p-dimethylaminobenzylidene)-  
(prepn. of)

RN 18977-38-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



CC 10 (Organic Chemistry)

IT **18977-38-3**, Cyclohexanone, 2,6-bis(p-dimethylaminobenzylidene)- 18984-24-2, Phenol, p-(2-nitrovinyl)-, acetate 18989-82-7, Cyclohexanone, 2,6-bis(p-chlorobenzylidene)- 24765-19-3, Cyclohexanone, 2,6-bis(p-bromobenzylidene)- 24801-27-2, Cyclohexanone, 2,6-bis(p-iodobenzylidene)- 25115-73-5, Cyclohexanone, 2-(p-chlorophenyl)- 29194-14-7, Styrene, p-chloro-.alpha.-nitro- 32045-66-2, Cyclohexanone, 2-m-tolyl- 52776-14-4, Cyclohexanone, 2-p-tolyl- 63882-42-8, Cyclohexanone, 2-o-tolyl- 64462-51-7, Aniline, N,N-diethyl-p-(2-nitrovinyl)- 84604-97-7, Cyclohexanone, 2-p-cumanyl- 90196-47-7, Styrene, p,.alpha.-dinitro- 91720-92-2, Cyclohexanone, 2-(p-bromophenyl)- 92577-05-4, Cyclohexene, 4-(p-chlorophenyl)-5-nitro- 97078-84-7, Cyclohexanone, 2-o-tolyl-, 2,4-dinitrophenylhydrazone 100063-28-3, 3-Cyclohexen-1-one, 6-(p-nitrophenyl)- 100389-81-9, Cyclohexanone, 2-(p-aminophenyl)- 102082-24-6, Cyclohexanone, 2-p-tolyl-, 2,4-dinitrophenylhydrazone 105640-25-3, Cyclohexanone, 2-(p-hydroxyphenyl)- 110049-85-9, Cyclohexanone, 2,6-bis(p-chlorobenzyl)- 182196-32-3, Cyclohexanone, 2,6-bis(p-dimethylaminobenzyl)- 412314-52-4, Aniline, N,N-dimethyl-p-6-nitro-3-cyclohexen-1-yl- 838826-66-7, Cyclohexanone, 2-(p-iodophenyl)- 854714-99-1, Cyclohexanone, 2-(p-aminophenyl)-, hydrochloride 854717-99-0, Cyclohexanone, 2-m-tolyl-, 2,4-dinitrophenylhydrazone 854719-28-1, Cyclohexene, 4-(p-bromophenyl)-5-nitro- 854726-66-2, 3-Cyclohexen-1-one, 6-(p-nitrophenyl)-, 2,4-dinitrophenylhydrazone 854726-85-5, 3-Cyclohexen-1-one, 6-p-cumanyl- 854726-87-7, 3-Cyclohexen-1-one, 6-(p-chlorophenyl)-, 2,4-dinitrophenylhydrazone 854726-89-9, 3-Cyclohexen-1-one, 6-(p-chlorophenyl)- 854726-91-3, 3-Cyclohexen-1-one, 6-(p-bromophenyl)- 854727-14-3, 3-Cyclohexen-1-one, 6-(p-iodophenyl)- 854727-16-5, 3-Cyclohexen-1-one, 6-(p-hydroxyphenyl)-, 2,4-dinitrophenylhydrazone 854727-18-7, 3-Cyclohexen-1-one, 6-(p-hydroxyphenyl)- 854901-99-8, Cyclohexanone, 2,6-bis(p-bromobenzyl)- 854913-01-2, 3-Cyclohexen-1-one, 6-(p-bromophenyl)-, 2,4-dinitrophenylhydrazone 855419-28-2, Phenol, p-6-nitro-3-cyclohexen-1-yl-, acetate 855601-11-5, Phenol, p-2-nitrocyclohexyl-, acetate 856183-47-6, Cumene, p-6-nitro-3-cyclohexen-1-yl- 858467-40-0, Styrene, p-bromo-.alpha.-nitro- 858467-88-6, Styrene, p-isopropyl-.alpha.-

nitro- 858467-90-0, Styrene, p-iodo-.alpha.-nitro-  
(prepn. of)